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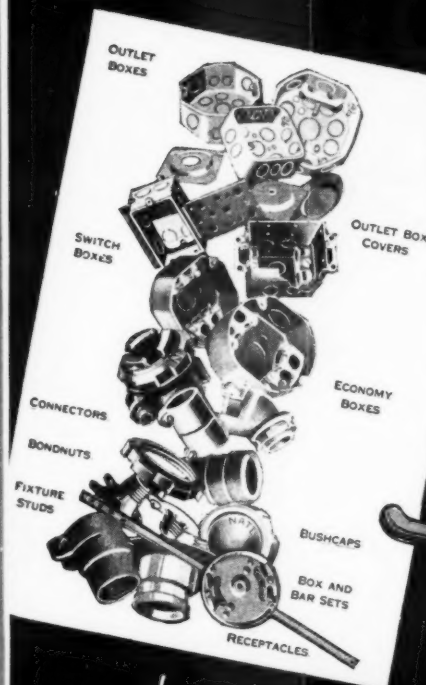
# Electrical Contracting

With Which Is Incorporated  
The Electragist

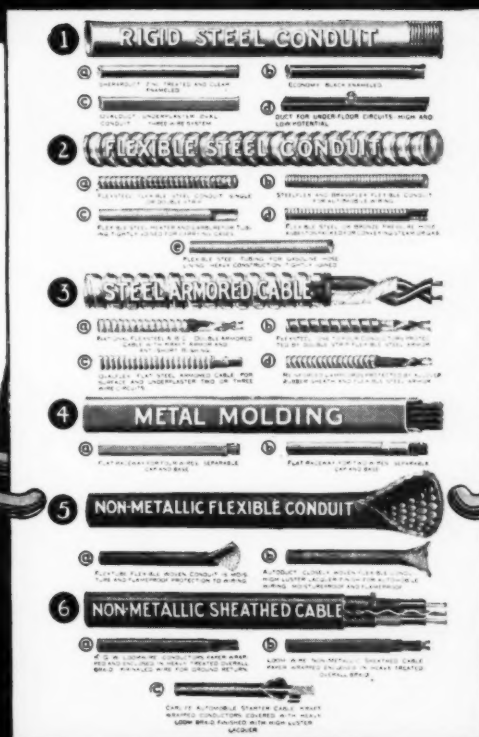
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## COMPLETENESS

### 6 COMPLETE WIRING SYSTEMS



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# NEWS!

## A New Switch...

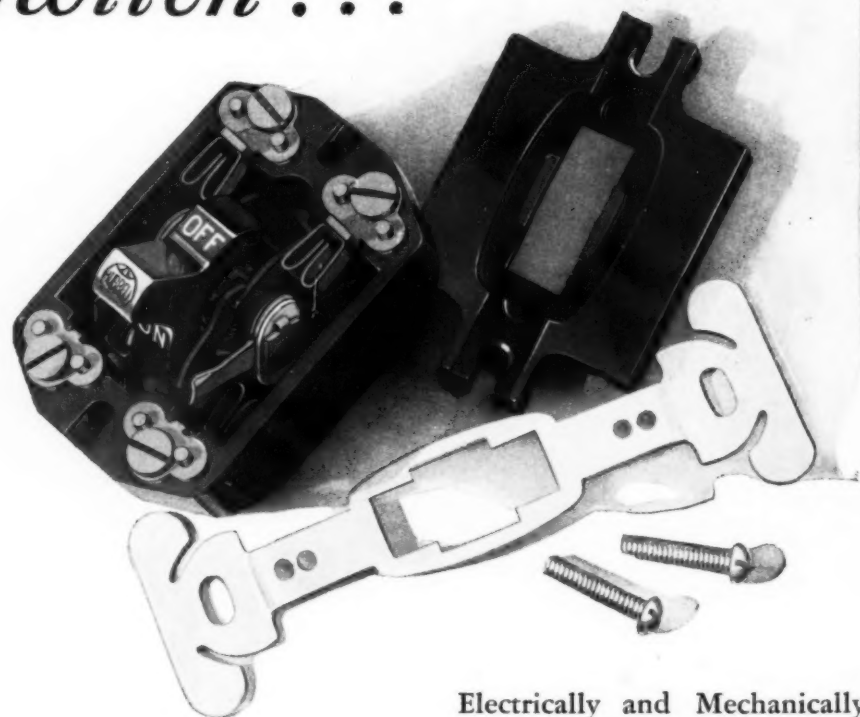
... With a new form of contact spring which prevents burning of contacts at "make" ...  
 ..... *even in circuit with type "C" lamps*

FOR months a staff of electrical engineers, technicians and designers have been at work at a single task in the Hubbell laboratory. They had been instructed to design a new toggle switch — electrically and mechanically perfect.

This was no simple assignment. Before them lay many problems. Most important of these was the elimination of burning of contacts at the "make" when controlling type "C" lamps — the most frequent cause of switch failure. This necessitated the development of a radically different design which would provide for the enormous inrush of current at the instant of "make".

Opened for your inspection here is the achievement of this staff. For they have succeeded...they have solved every problem...they have provided a toggle switch, electrically and mechanically perfect in every detail. This switch has successfully passed the severest tests. It is truly a product worthy of the name of the pioneer manufacturer of wiring devices.

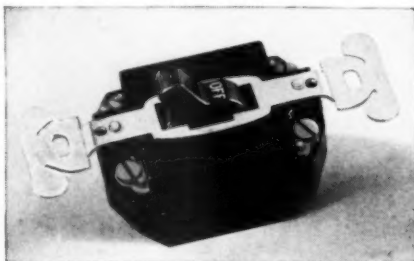
We are confident that you will give this new Hubbell Shallow Flush Toggle Switch your enthusiastic approval. You will understand our confidence when



you check over the outstanding features listed here. A complete line of these new switches is ready to meet every need. The coupon will place a detailed description on your desk.

### HARVEY HUBBELL, INCORPORATED BRIDGEPORT, CONNECTICUT

Boston, Mass.; 176 Federal St.; Atlanta, Georgia, H. C. Biglin, 138 Marietta St.; New York, N. Y., 122 East 42nd St.; Chicago, Illinois, 318 West Washington St.; Denver, Colo., T. H. Bodfish, 1109 Broadway; Philadelphia, Pa., Fifth St., Philadelphia Bourse, (Exhibition Dept.)



### Electrically and Mechanically Perfect in Design—"Approved"

A radically new form of contact spring scientifically designed so that two different rates of vibration are set-up in the spring; one tending to counteract the other. Thus recoil is practically eliminated in the ends of the contact spring when the solid metal contact blade strikes between them. As a result, burning and pitting of the spring is prevented — even when in circuit with type "C" lamps.

An automatic "kick off" prevents sticking of blades in contact.

A perfectly insulated commutator support. Commutator blades rigidly riveted to carrier, insuring positive alinement.

Spring arm is pivoted on a round shaft, seated in a symmetrical bearing, facilitating faster, smoother action without wear.

Operating mechanism is separate from the bridge and perfectly insulated.

A solid bridge with ears lies in a recess across Bakelite cover—entirely insulated; perfect alinement and rigidity insured.

Each wiring terminal is held by two screws. Bakelite case completely encloses mechanism.



## HUBBELL

### Toggle Switches

Please send information on Hubbell Toggle Switches

Name \_\_\_\_\_

Address \_\_\_\_\_

City and State \_\_\_\_\_

E. C. 7-29



# Electrical Contracting

*With Which Is Incorporated The Electragist*

Henry W. Young, Editorial Director  
Victor A. Hanson, Eastern Editor

S. B. WILLIAMS  
Editor

Coit A. Smith, Field Editor  
Louise Schaille, Assistant Editor

Vol. 28

JULY, 1929

No. 9

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## RESALE PRICE NEWS

One Pennsylvania contractor used the Resale Price Service to convince a farmer that the charges for wiring a barn were not too high. This farmer was a good customer and ordinarily the contractor would have chopped off a hundred dollars from the bill rather than have the customer dissatisfied. The fact that there were nationally published prices, recognized by the trade as correct, was sufficient to convince the farmer that the bill was correct—and he paid on the spot.

Numerous changes have been made this month in the Resale Price Service, not so much because of changes in price as because of rearrangement of lines in order to make the service more nearly complete, without rendering it too bulky. This will be found true with:

Bell and Buzzers.....PL- 6  
Attachment Plug Caps..PL-16  
Appliance Plugs .....PL-17  
Receptacle Caps &  
Plugs .....PL-18  
Sockets .....PL-19

The Resale Price Service has been extended to include price on apartment house mail boxes (PL-15) and telephones (PL-28).

Bell transformers were the only items to have a price housecleaning during the month. Generally speaking, the prices are higher, although in the larger sizes of a number of lines, the prices are slightly lower.

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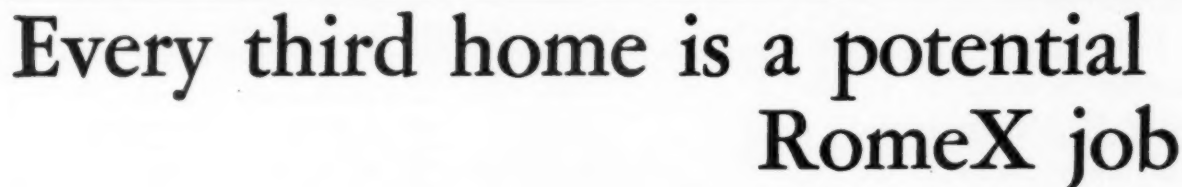
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# ROME WIRE



# A Problem in Selling

**T**HERE were fifteen thousand people who were thinking about going abroad and there were fifteen ships, each belonging to a different line, trying to get their patronage. Each boat was limited to a thousand passengers.

With a market, then, of fifteen thousand prospects and a capacity (sales possibilities) of one thousand of them, has any boat that ships one thousand passengers done a good job, or not?

It sounds silly, of course; but that, nevertheless, is the marketing problem of manufacturers who would seek a sales outlet through electrical contractors.

With a prospect list of fifteen thousand to pick from, the manufacturers have failed to see that there was a capacity for only so many. Instead of being pleased with the one prospect who bought a ticket on their boat, they have become disgusted with the whole market because of the fourteen who passed up their boat.

**I**F the manufacturers of electrical products will be satisfied to fill their own passenger list and forget those who do not care to ship on their boats, they will find in the electrical contractor a sales outlet

of tremendous volume, and one that will be extremely economical.

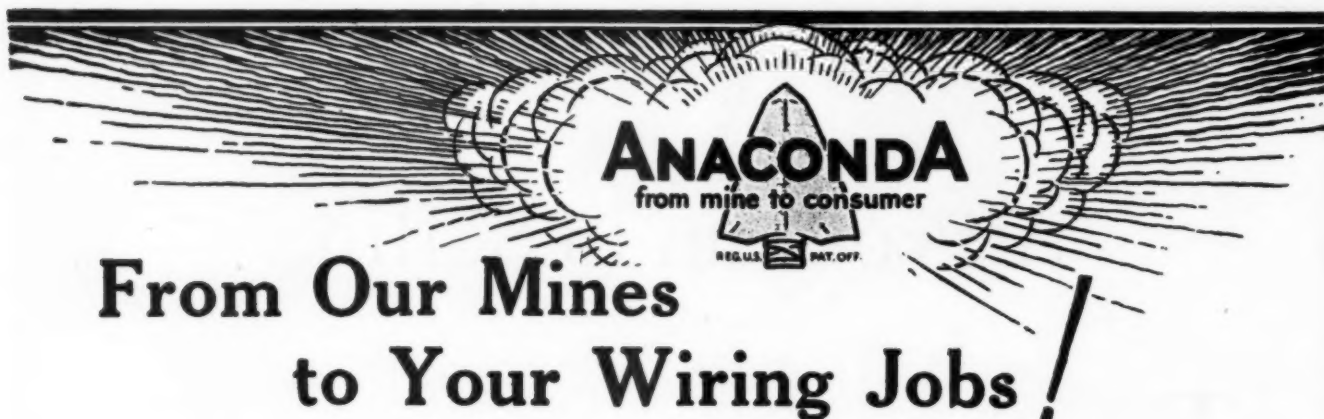
There are thousands of electrical contractors who are prospering. They are sales-minded. They are not satisfied to compete on price and get what work they can at somebody else's figure. They have found that electrical construction covers such a wide area today that there is an opportunity to concentrate on certain classes of work and become recognized as a specialist.



**E**LECTRICAL CONTRACTING has been urging its readers to specialize more and more in order to be able to compete on something other than price. Where price alone rules, the contractor is in a losing proposition. He must be able to make a profit to live. To make a profit he must have something other than price to offer the customer—specialized knowledge.

Specialists not only get their price, but they also sell a more complete job—they build where price competitors tear down. Specialists, it will be found, generally prefer to push the line of a single manufacturer.

ELECTRICAL CONTRACTING believes that in this thought there is much that is of mutual advantage to both the manufacturer and the contractor.



— another reason why Electrical Contractors can depend on the Quality of these Durabilt Wiring Materials.

<b>DURAWIRE</b> <small>REG. U.S. PAT. OFF.</small> Rubber-Covered Wire and Flexible Cords
<b>DURAFLEX</b> <small>REG. U.S. PAT. OFF.</small> Armored Bushed Cable and Flexible Steel Conduit
<b>DURACORD</b> <small>REG. U.S. PAT. OFF.</small> The Lacquer-Finish Heavy-Duty Portable Cord
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Chicago Office, 111 West Washington St.





# The Jit Broke Down

**A** LOT of folks wonder how I'm able to make pretty good money in electrical contracting, and sometimes I've wondered about it myself. I think maybe the big reason is that I know what it costs me to do business.

It's been my experience that the fellow who bids too low is one who doesn't realize what a lot of items go into a job besides time and material.

What started me thinking about it was a little talk I had with Moe Unterbidder the other day. I ran into Moe down at Smiley's lunch room where he looked like he was ready to weep salt tears all over his cheese-cake.

"Why the sorrow and misery?" says I.

"Oi," says Moe, "it iss another brother-in-law I haff on my neck. Th' bedemmed fool goes bust in th' jitney bus business an' a chob I must giff him or my vife walk out on me."

"S tough," I admits. "How-come he went broke?"

"Hiss car wore out on him," answered Moe. "So long as th' old crock would kep' running he makes good money mit jitney passengers, but when th' car bust up he bust up with it."

"But didn't he figure on that?" I exclaims. "He musta known that the car wouldn't last forever. As a business proposition he should have set aside, say, a cent out of every fare to take care of depreciation of equipment.

That's just as much an item of overhead as his license plates."

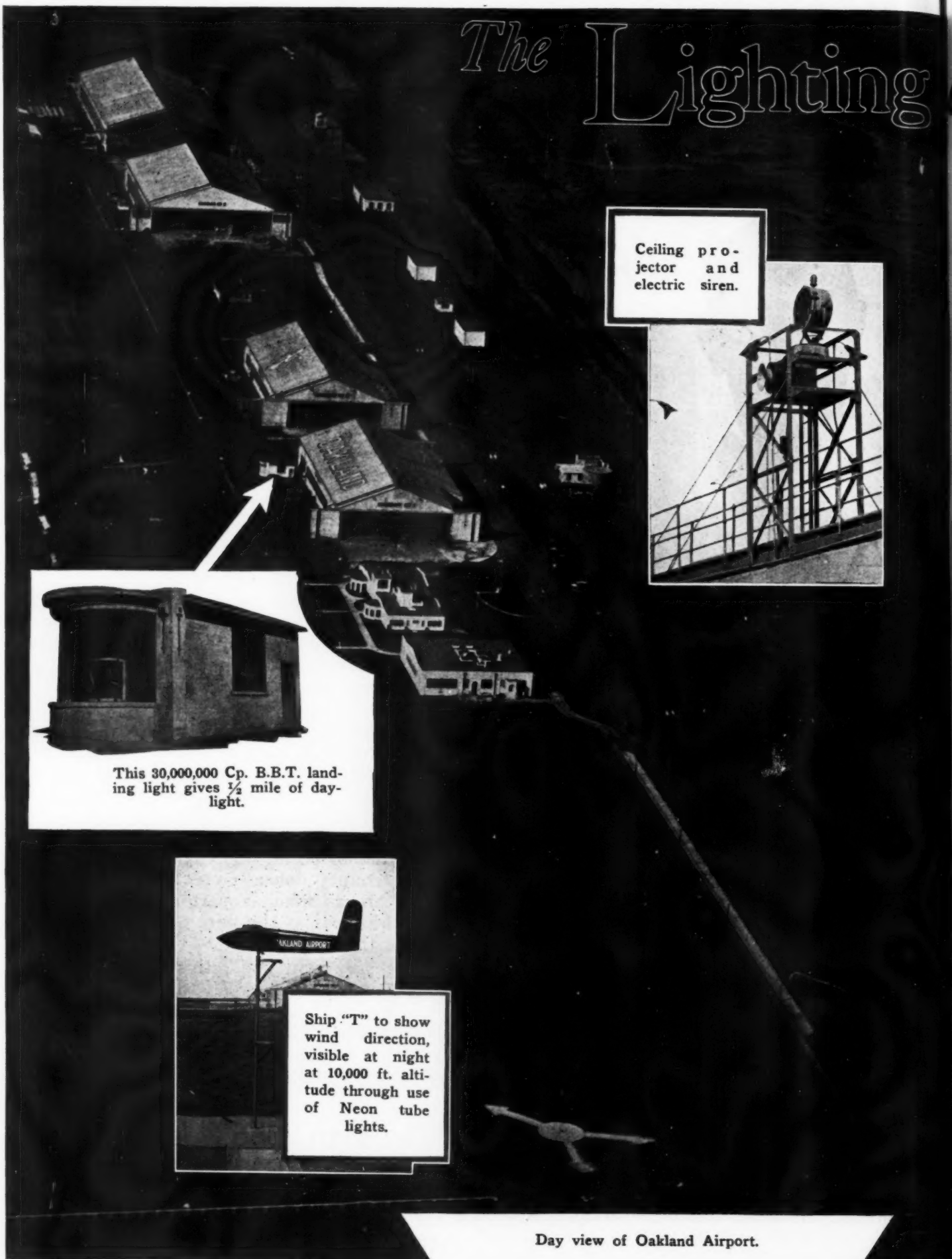
"Now you talk like one o' these here, now, certificated accountants with such long words. All my brother-in-law knows iss that he must buy gas und oil und maybe a tire oder a sparkplug sometimes. He don't know about these fancy things what you call overhead."

"That's why he went broke, Moe, and that's why a lot of men in our business go broke every year—they don't know about overhead. They forget that automobiles wear out, that tools get lost, that materials in the stockroom shrink, that bad accounts are bound to occur, and that all these items and a coupla dozen more I haven't mentioned are as much a part of their cost of doing business as the wire and conduit that go into the job.

"I've seen you make this same mistake, Moe. You pride yourself that you can 'figure close' when as a matter of fact you simply shut your eyes to plain truths about your overhead. I don't want to preach, but I'll tell you this much—

**"The Man Who Doesn't Know  
His Cost of Doing Business Is  
Bidding Blind." JOHN WISE**

# The Lighting a



Ceiling pro-  
jector and  
electric siren.



This 30,000,000 Cp. B.B.T. land-  
ing light gives  $\frac{1}{2}$  mile of day-  
light.



Ship "T" to show  
wind direction,  
visible at night  
at 10,000 ft. alti-  
tude through use  
of Neon tube  
lights.

Day view of Oakland Airport.



# and Wiring of the OAKLAND AIRPORT

*The Oakland, Cal., Municipal Airport, of which Col. Lindbergh said, "This is the best field I have ever seen", was designed to be the finest in the world from the standpoint of safety and flexibility.*

By VERNON E. BROWN

*Vice president, Diamond Electrical Manufacturing Co.,  
Los Angeles, Cal.*

## Lighting and Wiring Equipment

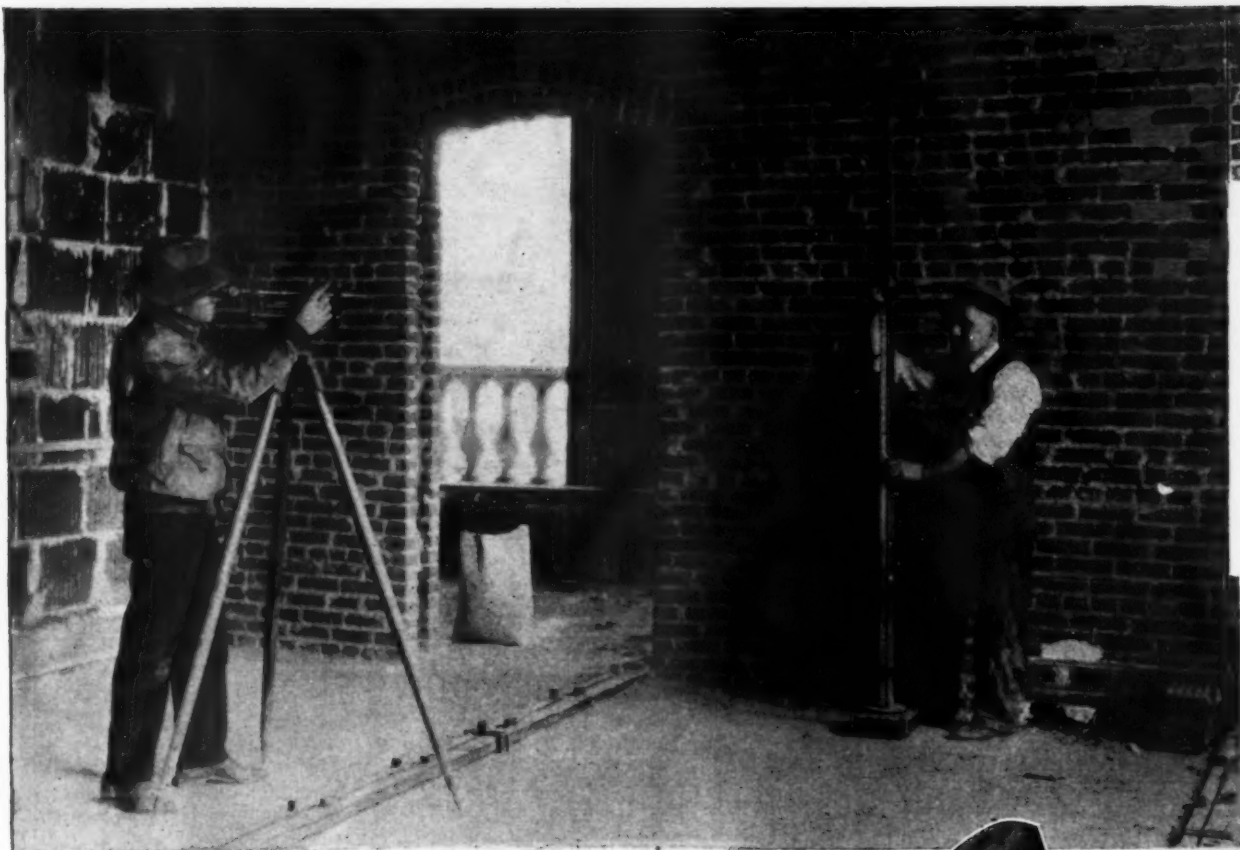
- 1 Rotating 24-in. Beacon using 1000-watt lamp to guide pilot to airport.
- 2 Boundary lights 300 ft. apart, eight of which fitted with green globes serve as approach lights. These are connected by a 3-wire grounded neutral 220-440 volt multiple system rather than in series, because of economy in operation and first cost.
- 3 Obstruction lights on port buildings and on road grade connected to boundary light circuit.
- 4 Illuminated wind direction indicators; regulation cone, and also a "wind tee" resembling an airplane illuminated by orange Neon lights and visible at an elevation of 10,000 ft.
- 5 Hangar lights, using floodlights for walls and 200-watt industrial reflectors for roof.
- 6 Field floodlights—a 30,000,000 Cp. landing light and four 1800-watt airport floodlights on 9 ft. standards, 300 ft. apart as an auxiliary system.
- 7 A 24-in. 1000-watt ceiling light.
- 8 A 7½ h.p. electric siren capable of being heard 1000 ft. in the air.
- 9 Directional indicator illuminated by high intensity floodlighting.
- 10 Underground service and distribution supplied through 5½ miles of lead cable laid directly in the ground, 18 in. deep and covered with 1½ in. redwood planks.
- 11 All illumination controlled from administration office building through remote control switches.



Bank of Diamond E remote control switches by means of which it is possible to control all lighting from main building.



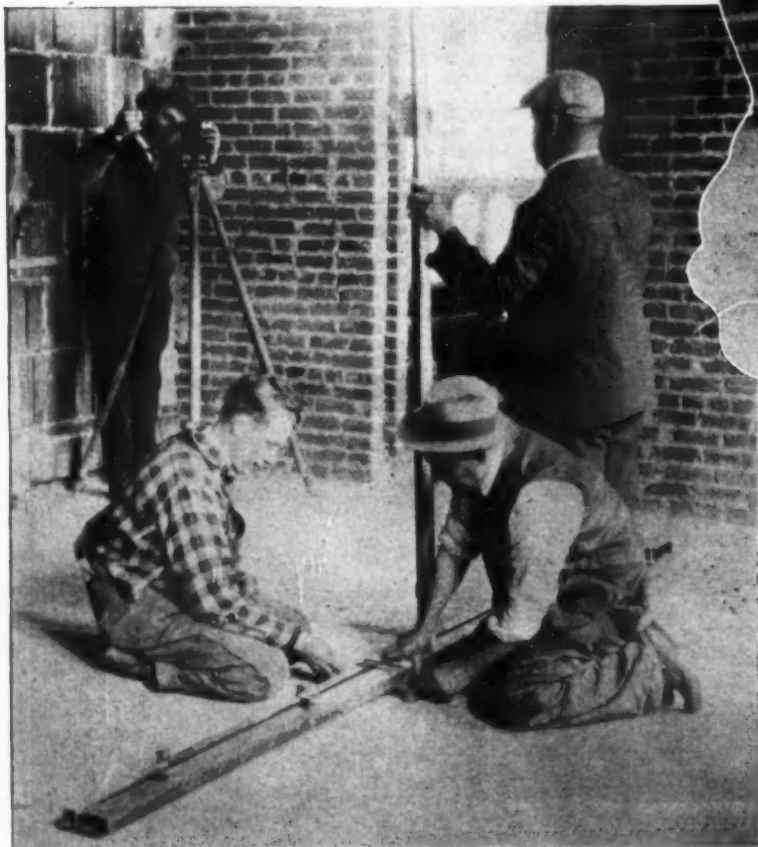
Perspective is given to the buildings through roof lighting and 4 ft. candles of floodlighting on the walls.



The first job in preparation for laying of under floor ducts is the spotting of the ultimate floor level. The most convenient method of doing this is by using a level. The junction boxes are then placed and set to the ultimate floor level.

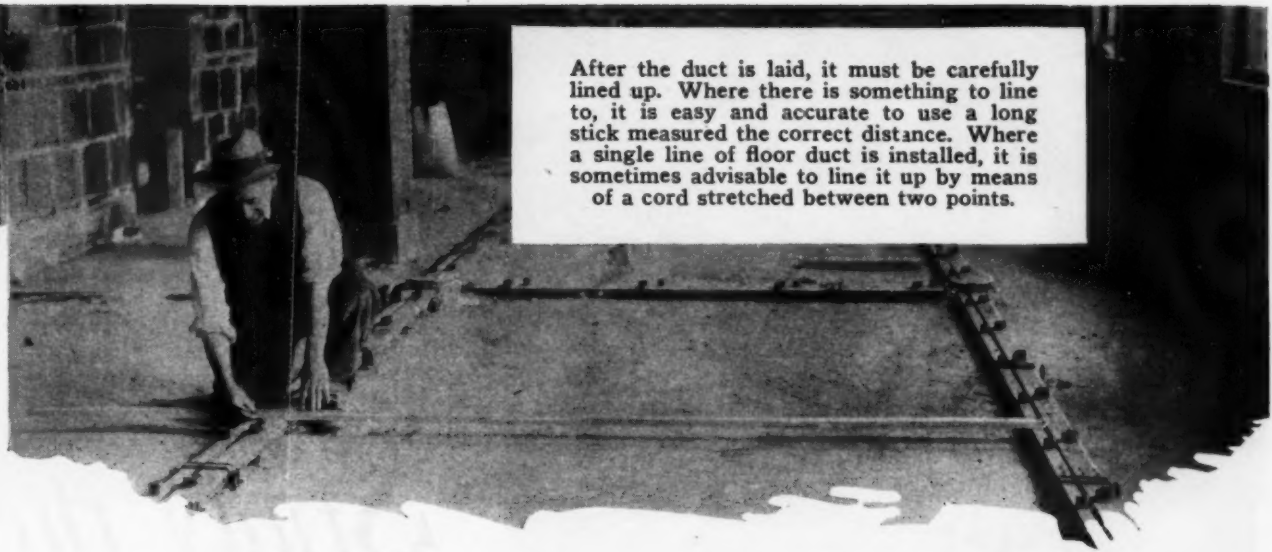


The second step is fixing the junction boxes permanently in position. A bed of concrete is laid, the box set in it and the edges of the concrete trowelled down.



The sections of floor duct are then inserted in the junction boxes and leveled to the correct position. Adjustable supports make it easy to bring the duct up to floor level when a level is used. A good point to remember is not to skimp on men when this equipment is being laid.





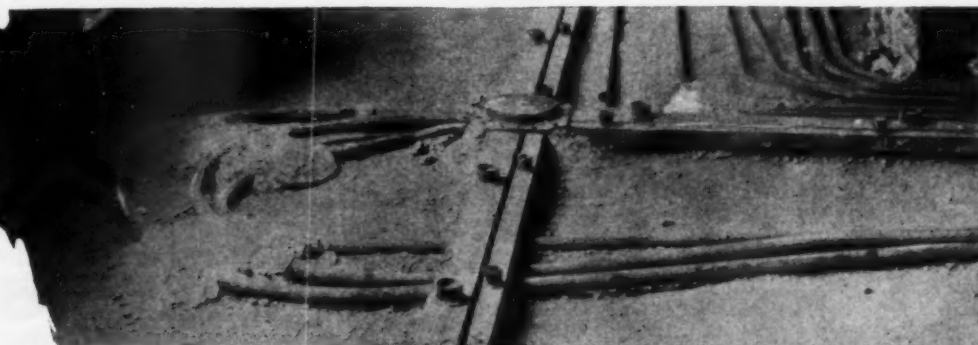
After the duct is laid, it must be carefully lined up. Where there is something to line to, it is easy and accurate to use a long stick measured the correct distance. Where a single line of floor duct is installed, it is sometimes advisable to line it up by means of a cord stretched between two points.

# How to Install STEEL UNDER FLOOR DUCT


*The ever increasing demand for flexible electrical distribution in commercial buildings has made it necessary that the contractor be thoroughly familiar with the methods involved in the installation of under floor duct. This article deals mainly with the leveling and setting up problems.*

By P. L. ELIAS

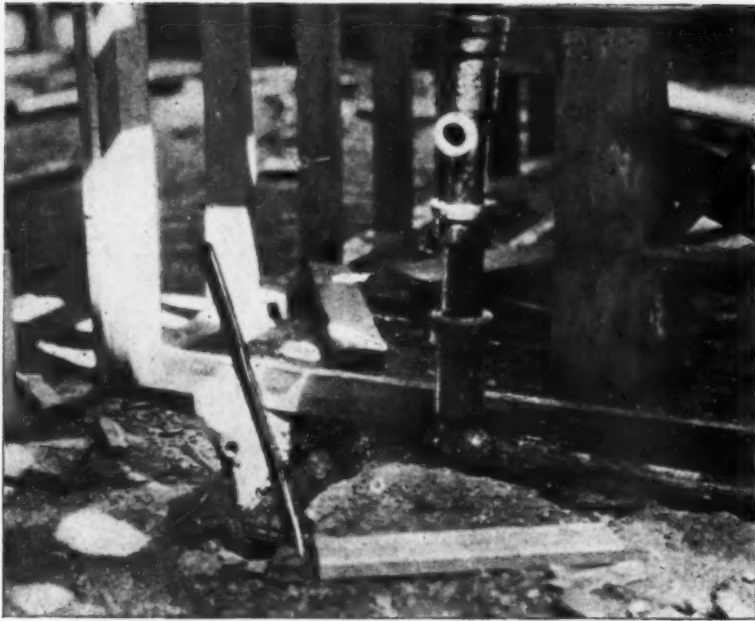
*of Hoffman & Elias, New York City*



Feeders are usually run in conduit to the nearest junction box. These conduits are fastened firmly to the floor by means of concrete.



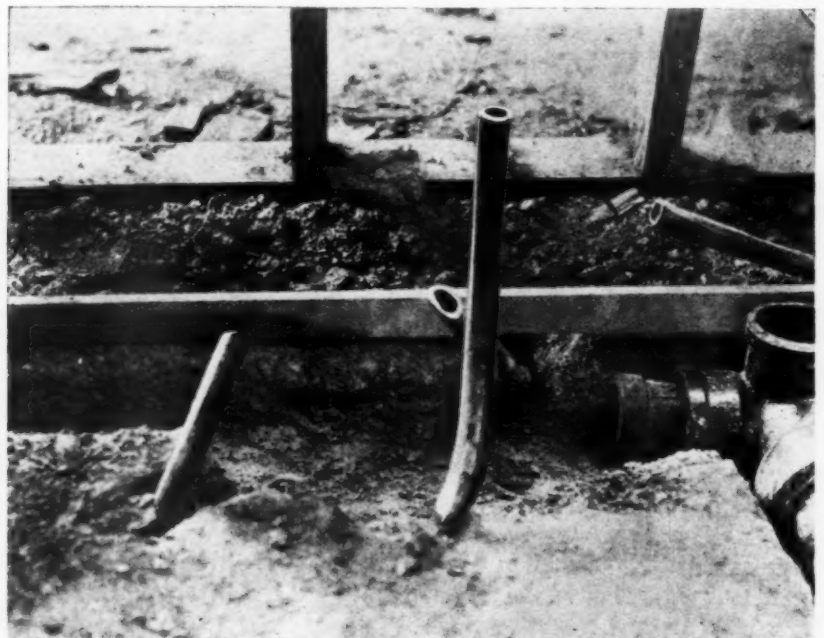
Care must be taken in crossing over conduits and other pipes. It is a very easy matter to rise above the floor level at such intersections, and it is often necessary to chisel out some floor concrete to obtain the correct level.



This three dollar damage could have been avoided by a few minutes' discussion with the plumber.

# *Study the* Plumber's Layout *Before Installing* CONDUIT

*When the electrical lines are run without regard for the location of water, steam or stack piping, the former are frequently cut by the plumber, resulting in an extra cost to the electrical contractor. Much of this waste can be prevented by working with the plumber and studying his layout*



The plumber in channeling for his stack had no choice but to cut this conduit and bend it up.

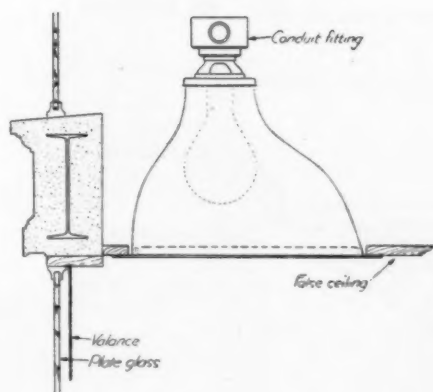


With 200-watt lamps on 12-in. centers, the windows of the Kibler store in Cleveland have a real stopping power, while daytime reflections have been eliminated.

# An Exceptionally Well Lighted Window

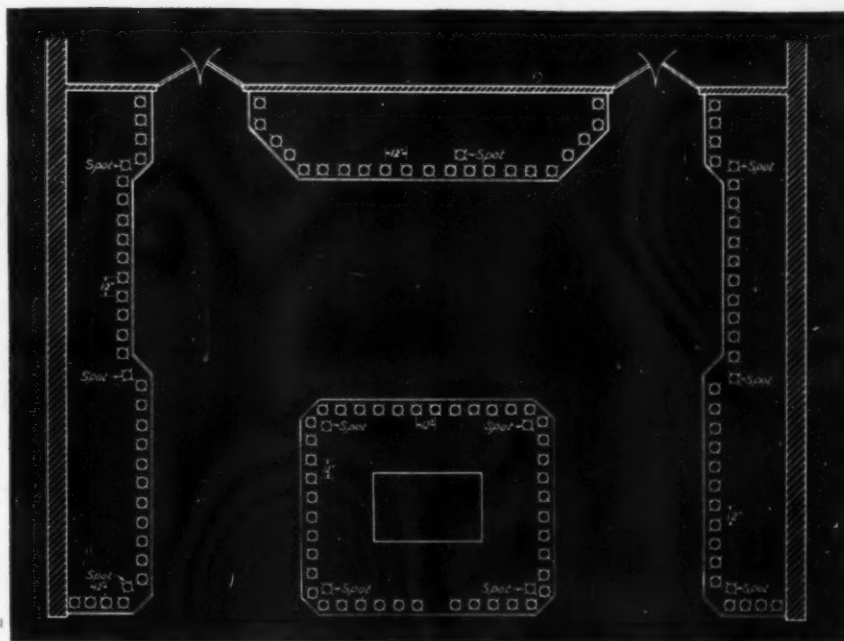
By DEAN M. WARREN

Engineering Department,  
National Lamp Works, Cleveland



Exposed equipment is satisfactory when such equipment will not normally be seen by window shoppers. Flush mounting on the other hand presents a neat appearance, giving equally good lighting results without diverting attention to the equipment and this is the manner in which Kibler show windows are lighted.

Lighting layout of Kibler windows.







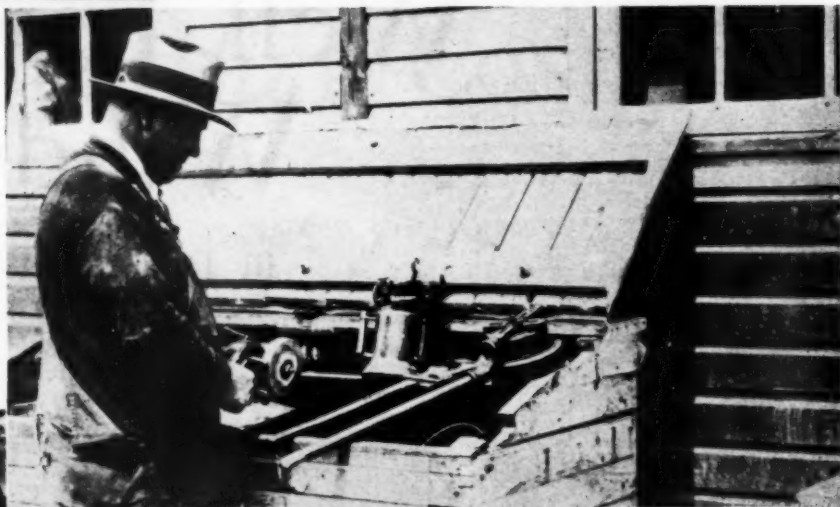
# A FOREMAN'S JOB

By FRANK DUMERMUTH

*Foreman, H. P. Foley Co.  
Washington, D. C.*

When a foreman first goes on a job, it requires careful study and planning. The specifications should be thoroughly gone over in the quiet of the foreman's home away from the turmoil of the job. After he has the job thoroughly in mind he must organize the work in such a way that waste time is cut to the minimum.

Tools are an important factor on every job. A good foreman should see that the men are furnished with all of the necessary tools and that these tools are in good condition. It is poor practice to have the men borrowing tools from other mechanics on the job.



A careful check should be kept on all materials on hand and of the materials to be required between the intervals of delivery to the job. The quantity of material on hand should be kept to a minimum, yet care must be taken that no shortage occurs.

*A good foreman is the contractor's representative on the job. He should conscientiously perform his duties to the advantage of his employer at the same time keeping in mind that anything that is detrimental to the employees is harmful to both himself and his employer*

The foreman should continually watch the way his men work. Some men naturally do things in an efficient way, while others need coaching. Also careful study of the men's work will reveal that some mechanics are more suitable for one type of work than another. A man is working at his highest efficiency when he is on the job he knows and likes best.



A word of praise for a job well done will go far towards obtaining a man's best cooperation. The good will of the employees is a vital factor in any job.

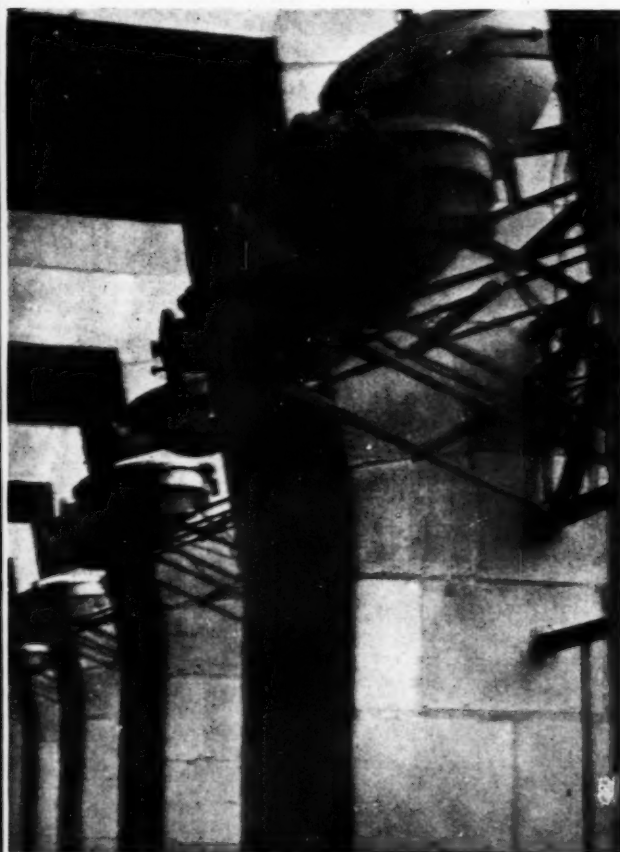
Perhaps fifty percent of the foreman's work is to check and record the progress of the electrical construction in relation to the rest of the job. He must know at all times when he will need more men and material.



# Skyscraper

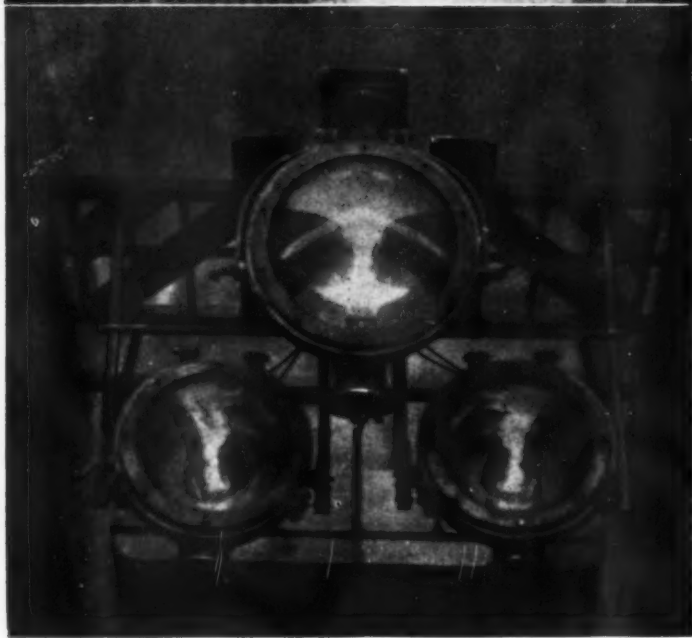
*Exterior illumination of the top of the fifty-six story Chanin Tower in New York City, by Edwards Electric Construction Co., New York, makes necessary a concentration of flood lighting units installed in a minimum amount of space*

The Chanin Tower at night. The crown is illuminated with 160 500-watt and 24 1000-watt units.



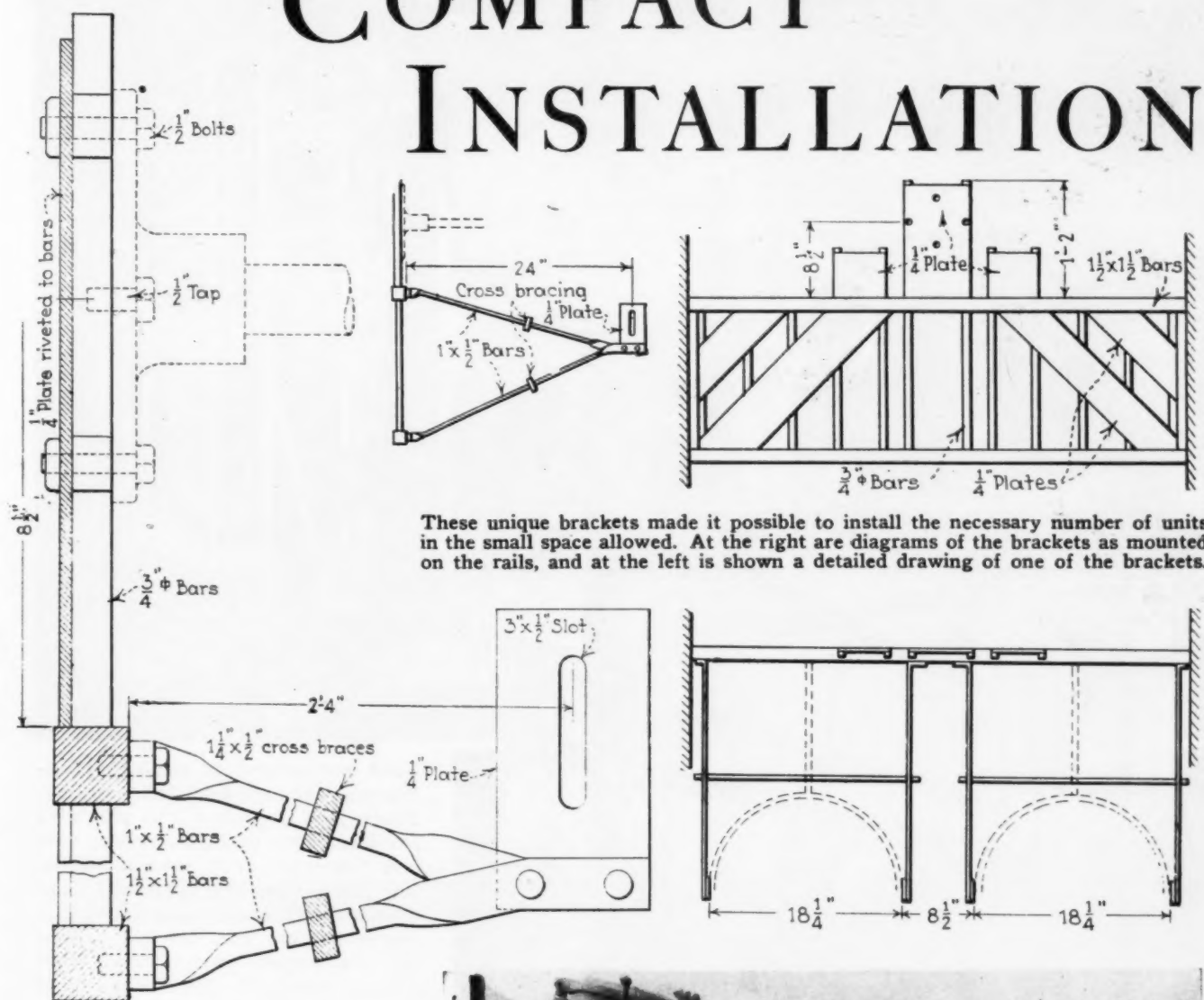
The space between each set of buttresses is illuminated by two sets of three flood lights each, mounted close to the building wall. The lower ones are set directly on floors of the series of bays surrounding the fifty-second floor and utilize standard supports. The upper sets are suspended between the buttresses. Special brackets had to be made.

Looking down on one of the upper sets of flood lights, the center light is a 1000-watt type and the two side lights 500 watts each. The brackets are described in detail on the opposite page.



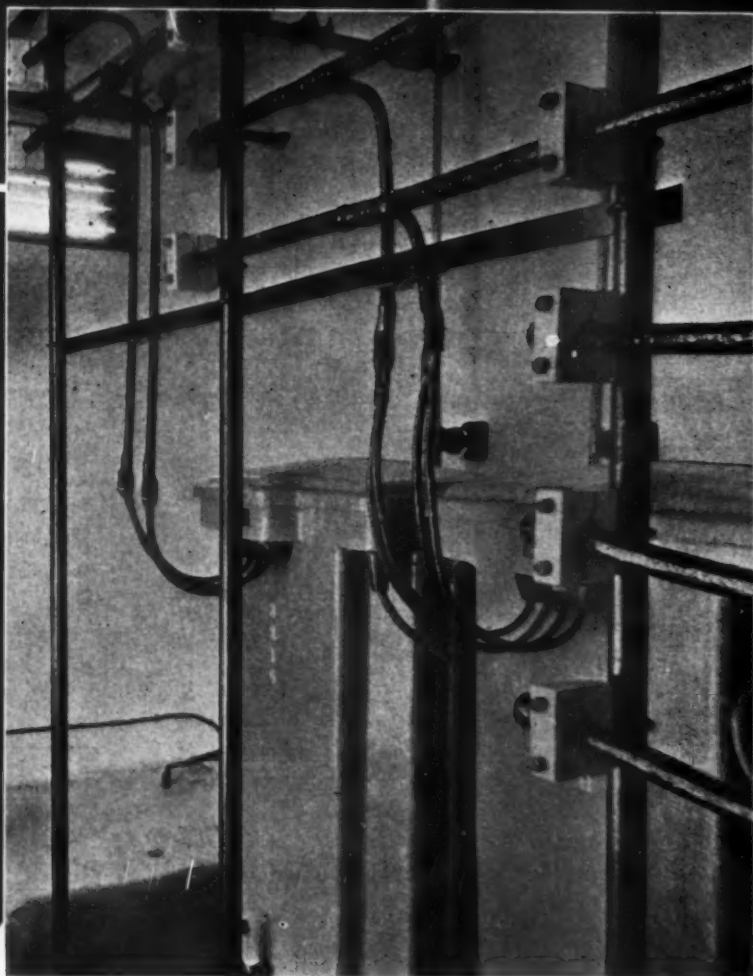


# r Flood Lighting *Requires* COMPACT INSTALLATION



The corners of the crown are illuminated by batteries of flood lights, which are mounted on standard bases, attached to extensions of the railing on the outer edge of the promenade.





Good arrangement of standard transformers with overhead bus structure. Frame built up from  $1\frac{1}{4}$  in. pipe with standard clamp fittings. Asbestos covered flameproof wire used for 4,000-volt primary bus, and mounted on top of frame with simple bus support. Flat copper bus bar used for low voltage bus and suspend from frame. Note primary cutouts in front where they are easily accessible.

Clever use of heavy wire supported on standard porcelain cleats for secondary bus. Primary bus above and connected to back of transformers.

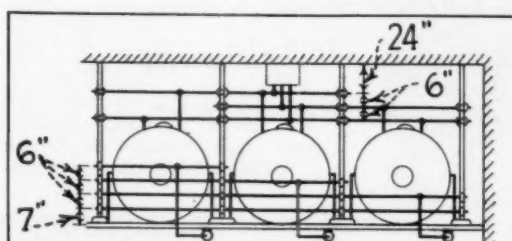
Fourth article in the series on Industrial Substations. Two more will appear, one in September and the other in November.

# Industrial Substation

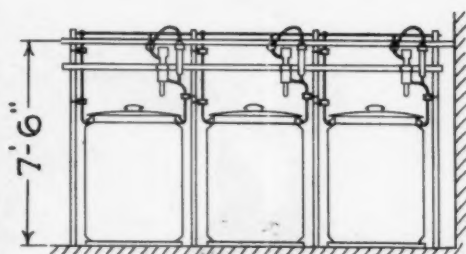
## Transformers and Bus Structure

By CLOVIS M. CONVERSE

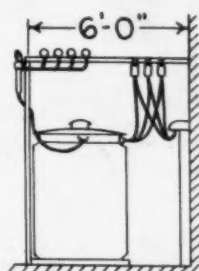
Sales Engineer  
G & W Electric Specialty Co.



PLAN



FRONT VIEW



END VIEW

Strive for simplicity in arrangement of bus and bus structure. Use  $1\frac{1}{4}$  in. standard pipe as it is strong enough for most purposes, is easily obtained and the clamp fittings are carried in stock. Busses may be of bare copper rod or tubing, or wire with flameproof insulation of proper rating. Flat copper bar is best for heavy loads. Special bus supports and clamp lugs are now made by many manufacturers. Connections to transformers may be either star or delta on the primary or secondary. The regulations of the utility supplying the energy will determine this point together with the primary voltage. Secondary power voltage should be governed by voltage of motors available.

A characteristic layout for three power transformers with pipe framework.

In this vault all bus structure has been omitted, primary lines are brought directly to transformer connections in lead covered cable, installed in conduit, and terminating in disconnecting potheads. Secondary leads are rubber covered wire in iron conduit terminating in condulets. All primary switches and fuses installed in a separate room. Two sets of transformers are used, one for light and one for power. A separate transformer is used for emergency lighting. This job is particularly good because of its simplicity and low cost.





# *Sells Adequacy in Competition*

*Gerrett Dekker, Chicago electragist, sells customers on the value of installing wiring and outlets far enough in excess of present needs to take care of increases for a long time to come. On an office building job (illustrated herewith) that was expected to go for \$1100.00, Dekker's bid price was \$1500.00 which he ultimately built up to \$2800.00. The increases were all legitimate, sensible additions, and the owners have already profited by them.*

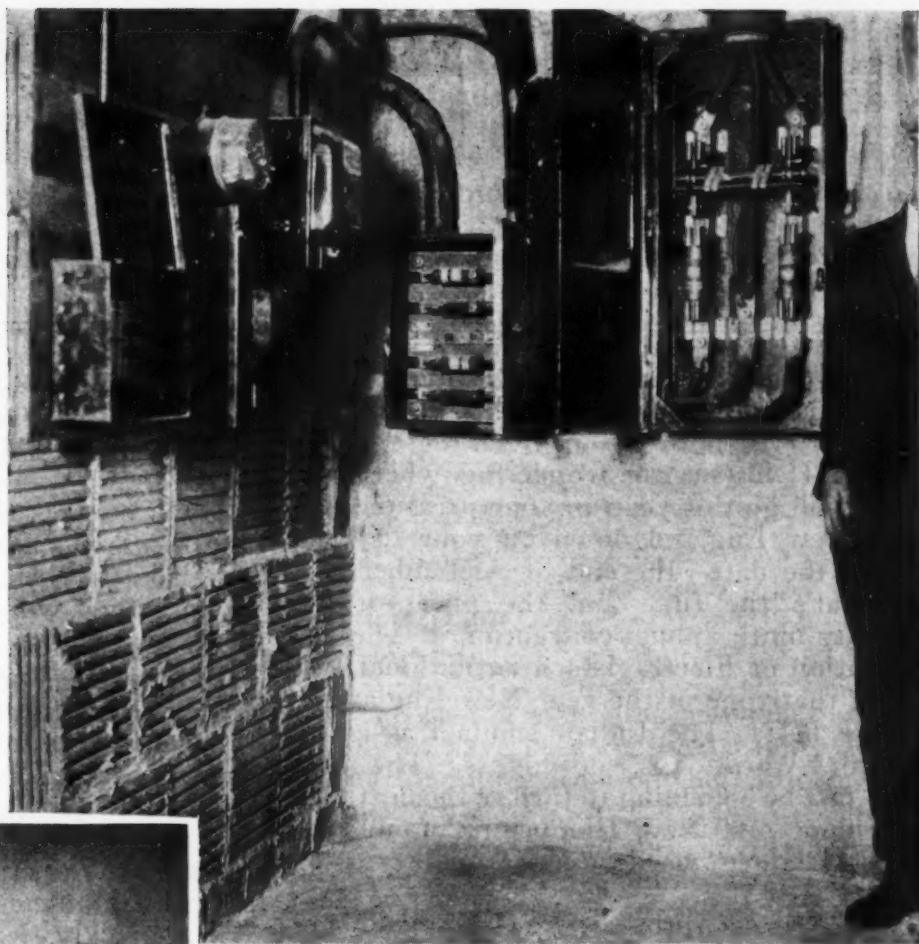
Mr. Dekker believes in talking adequate wiring right from the start. He is shown here discussing plans with John de Jong, one of his builder customers.



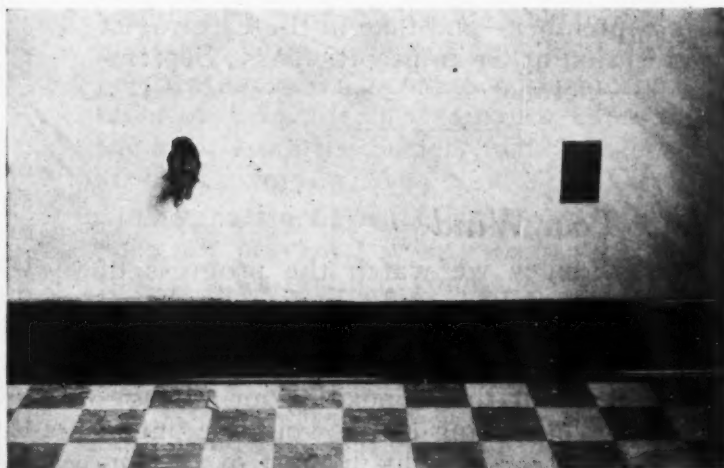
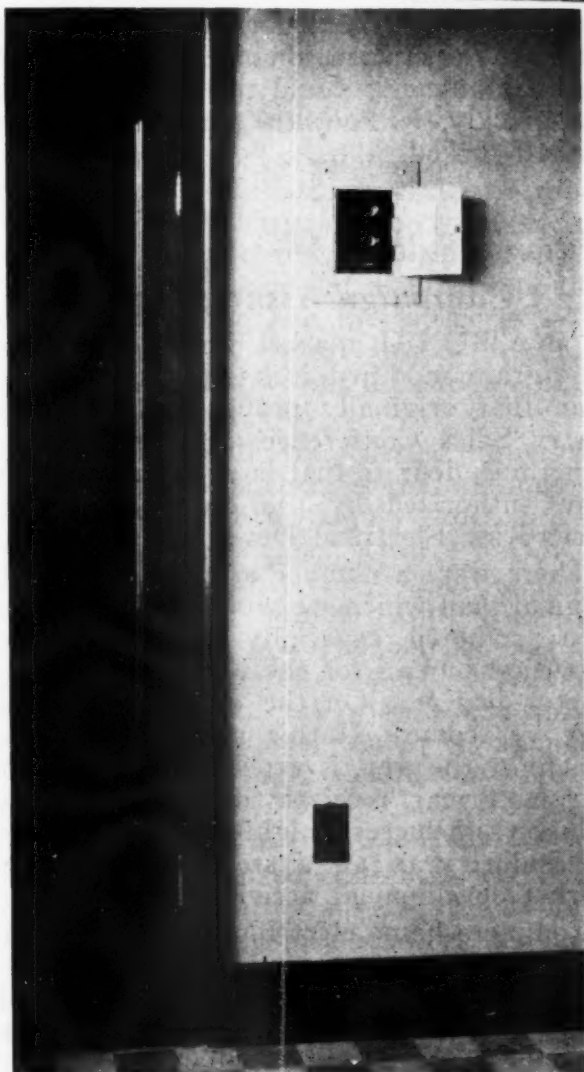
This is the office building, two stories and cellar, in which Dekker more than doubled the wiring. There are five stores and 17 offices. In the stores 34 circuits were provided instead of 15 and in the offices 66 circuits instead of 18, 28 circuits being spares.

# with PRICE

Cutout cabinets were installed in each office for efficiency and convenience.



The completed job involved the use of a 400 amp. main switch instead of 100 amp., the use of 3 in. conduit in place of 1½ in., 500,000 C.M. cable instead of No. 1 wire. The feeders are 4/0 wire in 2½ in. conduit. There is also a 220 volt, single-phase power service wired for changing over to three-phase when necessary.



In each office are three convenience outlets, two on one side and one on the other.

# Electrical Contracting

*With Which Is Incorporated The Electragist*

S. B. WILLIAMS  
Editor

## What About Vacation?

WHILE you are wondering where you will go this year on your vacation, just put New England down on your list and mark the date—the end of September.

That's the time and the place of the twenty-ninth annual convention of The Association of Electragists, International.

At that time of the year New England is at its best. The Indian summer is at its height—warm days, cool nights. The trees will just be beginning to turn in the northern Vermont and New Hampshire mountains. The summer vacationing crowd will be gone.

The roads through New England are fine. Every few miles there is a village with some historic background, and in no section of the country will so many reasonably priced and comfortable inns be found.

And the convention, this year at Swampscott, Mass., will be for contractors only. A serious convention for serious people.

Entertainment? Yes, of the finest kind and the ladies welcome as never before.

Make New England your vacation goal this September—and take in the Electragist Convention at Swampscott, Mass., September 30—October 4.

## It's A Poor Wind

THE longer we watch the progress of the controlled credit movement based on the Detroit Credit Plan, the more we are inclined to be thankful for the opposition. Without this opposition an arrangement for controlling credit would be put in force almost over night in most of the important cities. The natural result in many places would be a breakdown of the hastily constructed machinery and the damning of the plan.

We have no fears as to the progress of

the idea. Controlled credit has caught the imagination of the electrical contracting business and city after city is falling in line.

Of course, the contractors want credit control. It's about the best thing that could happen to them. The more opposition, the more they will want it and the better will they work out their plans.

There are indications that, by the end of the year, 25 per cent or more of the electrical contractors of the United States will be operating under some form of credit control. After that the others should fall in line rapidly. By that time, however, the details of operation should be so worked out that any city could put them into effect quickly, without the danger of going off half-cocked.

## National Sales Campaign Assured

A NATIONAL market development program, modified, it is true, considerably from that originally proposed by the Industry Sales Conference, but nevertheless something definite that is going ahead, has been authorized by the directors of the Society for Electrical Development.

There were a number of elements in the original plan which we would liked to have seen promoted, especially that of a trade extension bureau for the education of contractor-dealers. On the other hand, that may yet come. If this present program, which, by the way, is expected to get under way next year, receives the support of the industry, its success might easily encourage the industry to go a step further in its market development activities.

Complete home electrification will be the basis for the campaign which will be carried on nationally and locally. That should be a good rallying point. Complete home electrification means appliances, proper



lighting and adequate wiring. It means larger sales for every branch of the industry.

### Compensating Costs

IT'S a curious thing, but in all of the discussion within the electrical industry during the past three or four years about the price of wiring, most of the attention has been given to the cost of the wiring material. We contend that the price which the customer pays for wiring is the cost of wiring—not the price of material alone.

We also contend that where wiring is run concealed there is virtually little difference in cost to the consumer, no matter what the system. Conduit is, of course, the most expensive, but in those cities where pipe alone is permitted, it is surprising how low the costs per outlet run. It is now generally conceded that there is little to choose as to cost, between knob and tube, armored cable and sheathed cable. And, it is our firm conviction that if a new system were introduced, such as concentric wire, it would offer little, if any, inducement from the standpoint of cost installed.

The primary cost of an installation—labor and material—consists of service entrance, roughing-in, finishing, and job costs, such as permit and inspection fees. The service is the same for all kinds of installations, likewise the finishing and the job costs. The only difference, therefore, lies in the roughing-in or, in other words, the running of the basic material.

Now, if we will study materials, we will find that on some there is the minimum of labor expended at the factory—these are the lower priced systems. Others involve a larger amount of factory labor and are, therefore, higher priced. But where the larger amount of factory labor has been expended, it has generally resulted in reducing installation labor. Likewise, where only a small amount of factory labor is expended, there is as a rule more installation labor required. In other words, the law of compensation holds—and wiring costs bear this out.

Take the proposed concentric cable, for instance. It is barely possible, by eliminating one of the copper conductors, that concentric cable can be made to sell for less than, let us say, armored cable. But how about the fittings and the boxes?

The labor of running concentric would be

identical with armored cable, but the labor of connecting concentric to boxes, of making bonds, of insuring the continuity of the outside armor, is necessarily going to be greater. Can there be enough difference in price between concentric and armored cable to absorb the increased installation labor at \$1.00 an hour and up? Furthermore, with labor rates constantly advancing, are we justified in bringing forth a material such as concentric?

We are firmly of the opinion that concentric wiring will cost no less to install than knob and tube, armored cable or sheathed cable, but will cost more in those places where the higher wage rates are paid.

### The Uniform Ordinance

IN the past few months a number of inquiries have been received from readers asking for information on the Uniform Ordinance.

The Uniform Ordinance is an industry measure. It has the endorsement of all the national electrical organizations and is being promoted for the industry by the Society for Electrical Development through its Uniform Ordinance Department.

The aim of the Uniform Ordinance is to make the latest National Electrical Code automatically the basis for local wiring regulation. Some of the best legal talent the industry could muster have prepared the ordinance.

The Society for Electrical Development maintains a staff to handle only ordinance matters. Any city wishing help in the preparation of an ordinance, or the enactment of the Uniform Ordinance, can secure the same from the Society, which is located at 420 Lexington Ave., New York City.

The enactment of the Uniform Ordinance does not prevent any city from setting up special rules going beyond the Code in improving the character of wiring. All that the industry, nationally and through the Society, asks is that special rules do not restrict the market for any approved method beyond that laid down in the Code, that new methods be not set up which will break down national standards of manufacture without materially improving the job or lowering the cost and, whatever the special rules may be, that they do not in any way conflict with the Code.

# Code Chats

*A Monthly Discussion of Wiring Practice and Questions of Interpretation, Presented with a View Toward Encouraging a Better Understanding of the National Electrical Code - - -*

Conducted by F. N. M. SQUIRES

Assistant Chief Inspector, N. Y. Board of Fire Underwriters

## Armored Cable with Bare Wire

The armored cable situation still remains a very live subject and new developments are cropping up every few days.

Just recently one manufacturer has sent out samples of an armored cable with a bare tinned copper wire laid inside the armor with the other wires. This wire is simply to increase the conductivity of the armor and to reinforce the grounding. It is intended to be practically left alone in installation. It would be better not to cut it off in skinning the end of the cable, but to then bend it back so that it will be clamped under the connector or fitting as it will then materially aid in the grounding.

But it must always be remembered that this is *not* a current carrying wire and *must not* be so connected.

\* \* \*

## Motor and Motor Circuit Protection

There still seems to be a little confusion as to the protection required in motor work. To clear this up let us quote a few parts of the Code text:

808-a. \* \* \* \* the following tables (tables 1, 2, 3, 4, and 5 on pages 109 to 116 inclusive) govern the minimum allowable size of the conductor of any individual motor circuit *from the main or feeder to the motor* \* \* \*.

808-h. \* \* \* \* the motor and its circuit shall be considered sufficiently protected during this starting period, provided that *next back on the line* are fuses rated \* \* \* at not more than 500% of the motor name plate current rating.

Thus, with a squirrel-cage full voltage starting motor with a name plate rating of 50 amp., fed

from a distribution panel from which are also fed several other motors and which is supplied through a 1,000,000 c.m. feeder, we apply our motor tables as follows:

From column 2 of Table 1 we find that our circuit wire, if rubber covered, from the distribution

and use not smaller than No. 6 wire.

From column 7 we find *maximum* size of fuse which we may use for the protection of the motor and find that this is 60 amp. This is the running fuse which may be shorted out during the starting period and is the one which we showed last month gives us overload protection for the whole circuit and for the motor, although it is generally called the motor protection. If we are to use a time limit protective device instead of a fuse we find from column 6 that it must not be set at a rating over 62½ amp.

Now, From column 7 we find our circuit protection, and remember that the circuit starts at the distribution panel. This we find to be 150 amp. and these fuses are placed in the distribution panel and from them are run No. 4 wires to the starting switch and then to the motor.

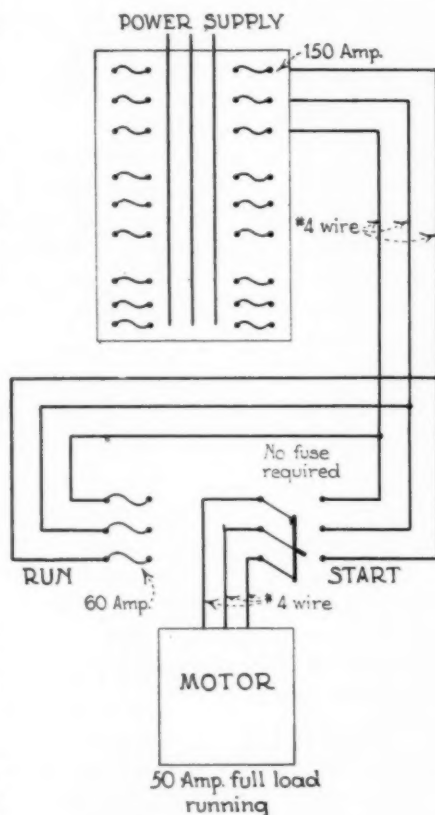
\* \* \*

## Splicing Troubles

There is one requirement which is probably the best known rule of the Code, and yet is the one most frequently abused. Certainly, it is the one with which the inspectors have the most trouble and one which contractors never try to argue out of.

The rule is quoted below in hopes that it may be now read and noted by someone who has never heard of it before:

203-b. Wires shall be so spliced or joined as to be mechanically and electrically secure without solder. *The joints shall then be soldered*, unless made with a splicing device, and shall be covered with an insulation equal to that on the wires.



panel to the motor, whether it be 10 ft. or 100 ft. or any other distance (not bothering with voltage drop) is to be not smaller than No. 4. If we are to use varnished cambric insulation we apply column 3 and use No. 5 or larger, and if we are to use slow burning insulation we apply column 4



The New York Bakeries of the National Biscuit Company



All the National Biscuit Company Plants  
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# TRICO RENEWABLE FUSES

*They're "Powder-Packed"*

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*Free samples on request.*

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# A. E. I.

## News and Service Information

*Material for this department is supplied by the headquarters staff of the Association of Electragists, International,  
420 Lexington Avenue, New York, N. Y.*

### Field Activities

Completing a year's itinerary through the Eastern half of the country from Wisconsin to Florida and from Texas to Maine, J. R. Wilcox, A.E.I. field representative, will spend July, August and September visiting many of the principal points in New York and New England. His route will include Buffalo, Rochester, Syracuse, Utica, Troy, Albany, Poughkeepsie, Bridgeport, Springfield, Hartford, New Haven, Fall River, Brockton, Pawtucket, Providence, Worcester, Lowell, Manchester, Concord, Augusta, Bangor, Portland and Lynn, concluding with attendance at the annual convention in Swampscott, September 30 to October 4.

\* \* \*

### Nominations for President and Vice-President

Election of the president and a vice-president of the A.E.I. under the provisions of the revised constitution will be held for the first time this year at the annual convention at Swampscott, Mass., on October 1. The election will be by official ballot of all members present and by accredited delegates of local chapters who shall be entitled to cast the vote on the official ballot of each member of their association.

The constitution provides that nominations for president and vice-president may be filed by any member, such nominations to be in the hands of the secretary at least thirty days prior to the date of the annual convention. No one shall be nominated for president or vice-president unless he shall have served as a member of

the executive committee. The consent of a nominee must be obtained before his nomination is put to vote.

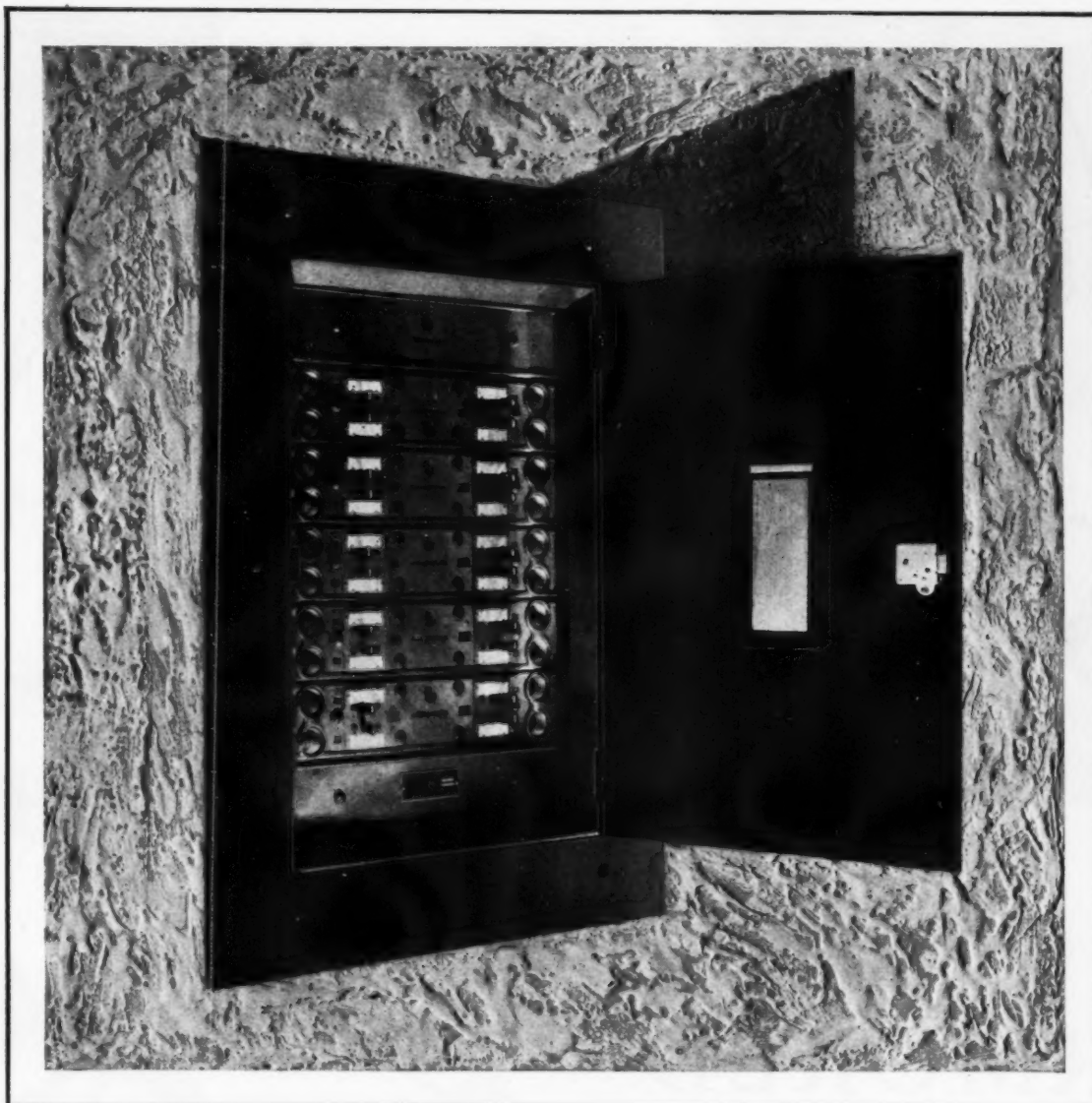
Present members of the A.E.I. who have served on the executive committee since it was established twenty years ago, and who are therefore eligible for nomination as president or vice-president, will be found below on this page listed according to the years served on the committee.

### Standard Definitions Committee

George E. Shepherd, of the Shepherd-Rust Electric Co., Wilkes Barre, Pa., has been appointed by the A. E. I. to represent them on a sectional committee of the American Standards Association, under the sponsorship of the American Institute of Electrical Engineers, for the development of recognized American Standards for definitions.

### Nominations for President and Vice-President Must Be from Following List

NAME	CITY	YEARS SERVED
Ernest Freeman,	Chicago, Ill.	1909-1914
Gerry M. Sanborn,	Indianapolis, Ind.	1909-1922
James R. Strong,	New York, N. Y.	1909-1916:1921-1929
Chas. J. Sutter,	St. Louis, Mo.	1909-1910
Joseph A. Fowler,	Memphis, Tenn.	1913-1929
Paul H. Jaehnig,	Newark, N. J.	1913-1922
J. C. Rendler,	Los Angeles, Cal.	1913-1918
W. Creighton Peet,	New York, N. Y.	1916-1928
Robley S. Stearnes,	New Orleans, La.	1916-1922
W. K. Tuohey,	Springfield, Mass.	1916-1919
Sam Jaggar,	Portland, Ore.	1918-1919
J. F. NePage,	Seattle, Wash.	1918-1921
J. Norman Pierce,	Chicago, Ill.	1918-1919
S. C. Blumenthal,	Baltimore, Md.	1919-1921
L. K. Comstock,	New York, N. Y.	1919-1921:1923-1925:1928-1929
Alfred J. Hixon,	Boston, Mass.	1919-1922
A. L. Oppenheimer,	Cleveland, Ohio	1919-1921
J. R. Tomlinson,	Portland, Ore.	1919-1921
E. C. Gramm,	Washington, D. C.	1920-1922
C. H. E. Williams,	Vancouver, B. C.	1920-1922
J. F. Buchanan,	Philadelphia, Pa.	1921-1922:1924-1927
T. M. Templeton,	Detroit, Mich.	1921-1922
R. A. L. Gray,	Toronto, Ont.	1922-1929
Howard P. Foley,	Washington, D. C.	1922-
L. G. Ross,	Superior, Wis.	1922-1925
C. C. Carter,	Vancouver, B. C.	1923-1925
Clyde L. Chamblin,	San Francisco, Cal.	1923-1929
E. C. Headrick,	Denver, Colo.	1923-1929
J. G. Crosby,	Philadelphia, Pa.	1923-1924
J. H. Schumacher,	Winnipeg, Man.	1925-1929
Leo. E. Mayer,	Chicago, Ill.	1926-1929
A. C. Brueckmann,	Baltimore, Md.	1926-1929
Geo. E. Shepherd,	Wilkes Barre, Pa.	1926-1928
S. J. Stewart,	New Orleans, La.	1927-1929
Charles E. James,	Fort Pierce, Fla.	1928-1929
Earl N. Peak,	Marshalltown, Ia.	1929-



## —more than skin deep

The better appearance of **FA** Panelboards is due to design and construction features far deeper than structural beauty. What you don't see at sight is the standardization of all parts including the steel cabinet and the no-maintenance-required service that makes **FA** Panelboards a better job as well as 'the sign of a

better job.'

**FA** Panelboards deliver more value for the money and with the co-operation of the right-price-first policies of the **FA** Company—every electrical contractor can be certain of building a fair stabilized business in contracting work.

Send for the new  
**FA** catalogue  
now ready.

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Baltimore, Md.  
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Cincinnati, Ohio  
Dallas, Texas  
Denver, Colo.  
Detroit, Mich.

*Frank Adam*

**ELECTRIC COMPANY**

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Use the **FA** man  
nearest you to help  
you figure jobs.

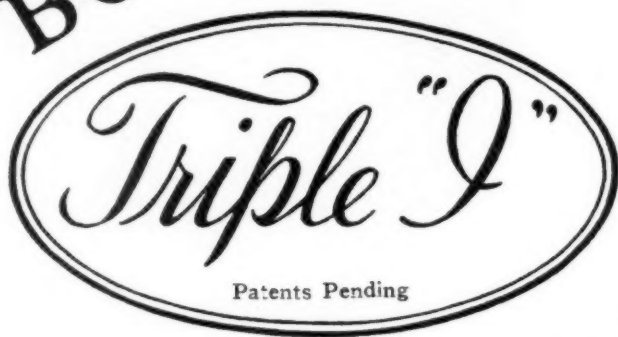


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## THE BIG SCOOP IN THE INDUSTRY

Safety for every installation is provided when you use the new **TRIANGLE Bonded TRIPLE "I" ARMORED CABLE** . . . . Prominent electrical inspectors throughout the country have registered their entire approval and commendation of this big scoop in the industry . . . . Hot spots in the armor simply can't exist, because the tinned copper *bond* wire in conjunction with the armor furnishes an exceptionally low resistance path to the fuse, giving complete protection . . . . Every coil of this new *bonded* cable is guaranteed to have a resistance less than one ohm per 100 feet, thus over-heating of armor is impossible. It provides a definite solution of "ground troubles" . . . . a real safety valve when grounds, short circuits or overloading occur, insuring service fuses blowing if branch circuit fuses are jumped or bridged. This eliminates fire hazard and guarantees your work. . . . . Investigate the New **TRIANGLE Bonded Triple "I" Armored Cable** immediately. Order today from your jobber, or write us direct, giving us his name.



# Conduit Co., Inc.

Factories:

Brooklyn :: Chicago  
Butler, Pa.

In Canada:

Canadian Triangle Conduit Co., Ltd.  
Toronto

The scope of the proposed work has been outlined as:

"Definitions of technical terms used in electrical engineering, including correlation of definitions and terms in existing Standards."

One of the important recent developments of definitions are those embodied in the "Electragist Standards for Wiring Installations," in the preparation of which Mr. Shepherd served as a member of the Electragist Standards Committee.

These definitions in Section 2 of the Electragist Standards have been submitted for approval by the A. S. A. as American Standards.

\* \* \*

### Accounting for Smaller Contractors

A number of inquiries have been received recently at A. E. I. headquarters regarding the "Simplified Business Record," formerly available from the A. E. I. This record system was designed to provide a means of recording daily transactions in permanent systematic form, and was intended primarily for use by the very smallest contracting business employing no bookkeeper. Although a number of them were purchased when they first appeared, it was found that this type of system could not present adequately, and in the proper form, all of the facts concerning the business which even the small

### NEW CHAPTERS

Since the report in the June issue ten new chapters have been approved for affiliation and Certificates of Charter issued. They are located in:

Birmingham, Ala.  
Denver, Colo.  
Daytona Beach, Fla.  
Fort Pierce, Fla.  
Jacksonville, Fla.  
Tampa, Fla.  
New Orleans, La.  
St. Louis, Mo.  
Portland, Ore.  
Des Moines, Iowa.

business found essential to successful operation. Accordingly, the association discontinued carrying this item some time ago, and has since been recommending and offering exclusively the Electragist Standard Accounting System. The A. E. I. is advising all its members and correspondents desiring to install an accounting system to employ the standard cost accounting method and avoid the so-called "simplified" or "short-cut" systems, as the latter do not properly tell the important story.

\* \* \*

### Applications for Affiliation

In addition to those previously listed in the May and June issues, applications for charter have been filed recently by the electrical contractors associations in Appleton, Wis., Lake-Porter Counties, Ind., Kansas City, Mo., and Akron, Ohio.

### Executive Committee Election

Under the revised constitution each division of the association is represented by an Executive Committeeman, who shall be nominated and elected at the annual convention by official delegates and other members present from the respective divisions. The election of committeemen shall require the majority vote of those present and represented from each division.

The term of office of the committeemen elected at the coming convention at Swampscott in October by the Eastern, Southeastern, Great Lakes, Mountain and Western Canadian Divisions shall be for one year; and those elected by the Southern, Central, Pacific and Eastern Canadian Divisions shall be for two years.

The nine divisions of the A.E.I. are as follows:

1. *Eastern Division:* The New England States, New York, New Jersey, Pennsylvania, Delaware, Maryland and District of Columbia.
2. *Southeastern Division:* Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
3. *Southern Division:* Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma, Texas.
4. *Great Lakes Division:* Michigan, Ohio, Indiana, Illinois, Wisconsin.
5. *Central Division:* Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota, South Dakota.
6. *Mountain Division:* Idaho, Montana, Wyoming, Utah, Colorado, New Mexico.
7. *Pacific Division:* Washington, Oregon, California, Nevada, Arizona.
8. *Eastern Canadian Division:* Ontario and the Provinces East.
9. *Western Canadian Division:* Manitoba and the Provinces West.

### NEW ELECTRAGISTS

The following contractor-dealers have made application and been accepted into the A.E.I. since the publication of the list in the June issue:

ALABAMA  
*Birmingham:*  
Daniels Elec. Co.

FLORIDA  
*Sarasota:*  
Benkendorf Elec'l Co.  
*Tampa:*  
Newsom Elec. Co.  
Triangle Elec. Co.  
J. W. Whatley

ILLINOIS  
*Galesburg:*  
Illinois Power & Light Corp.

MICHIGAN  
*Detroit:*  
Lester J. Brandt  
Archie M. Fesser  
Walter G. Grabman  
Listerman Elec. Co.  
L. J. McKinney  
Joseph E. Morris

S. H. Scott  
West Detroit Elec. Co.

MISSOURI  
*St. Louis:*  
Rick Elec. Co.

NEW YORK  
*Brooklyn:*  
Davidson Elec. Co.  
L & P Elec. Co.

*New York City:*  
S. Edw. Eaton & Co., Inc.  
Peerless Engineering Co.  
*Walden:*  
N. G. Jewens

OREGON  
*Freewater:*  
The Electric Shop

PENNSYLVANIA  
*Corry:*  
Corry Elec. Shop

# 50% easier pulling— Identified circuits



Wiring contractors have spoken so enthusiastically of this new Rainbow Line of "U. S." Paracore Wires that we feel we have contributed another step in the advance of this rapidly expanding industry.

This idea is so new that we would like to talk to every contractor in the country and ask his opinion. But we cannot talk to all of you face to face, so we have thrown this matter open to discussion.

To repay you in part for your time, we will give, free, to every contractor, engineer, and architect sending us practical suggestions, a \$5 set of electrical data charts which take the place of the usual handbooks when making wire estimates.

Won't you express your opinion fully? Give diagrams of the circuits on which YOU would use these wires, or suggest a standardized practice of designating different colors for different circuits.

Free samples of the 8 different colored wires in the Rainbow Line will be sent to you upon request. Examine them critically, then write us what you think of the idea.

Send the coupon today—You may find these wires and the charts just the thing for your next job.

*We'll gladly serve you through your jobber*

United States  Rubber Company

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United States Rubber Company, Room No. 454, 1790 Broadway, New York, N. Y.

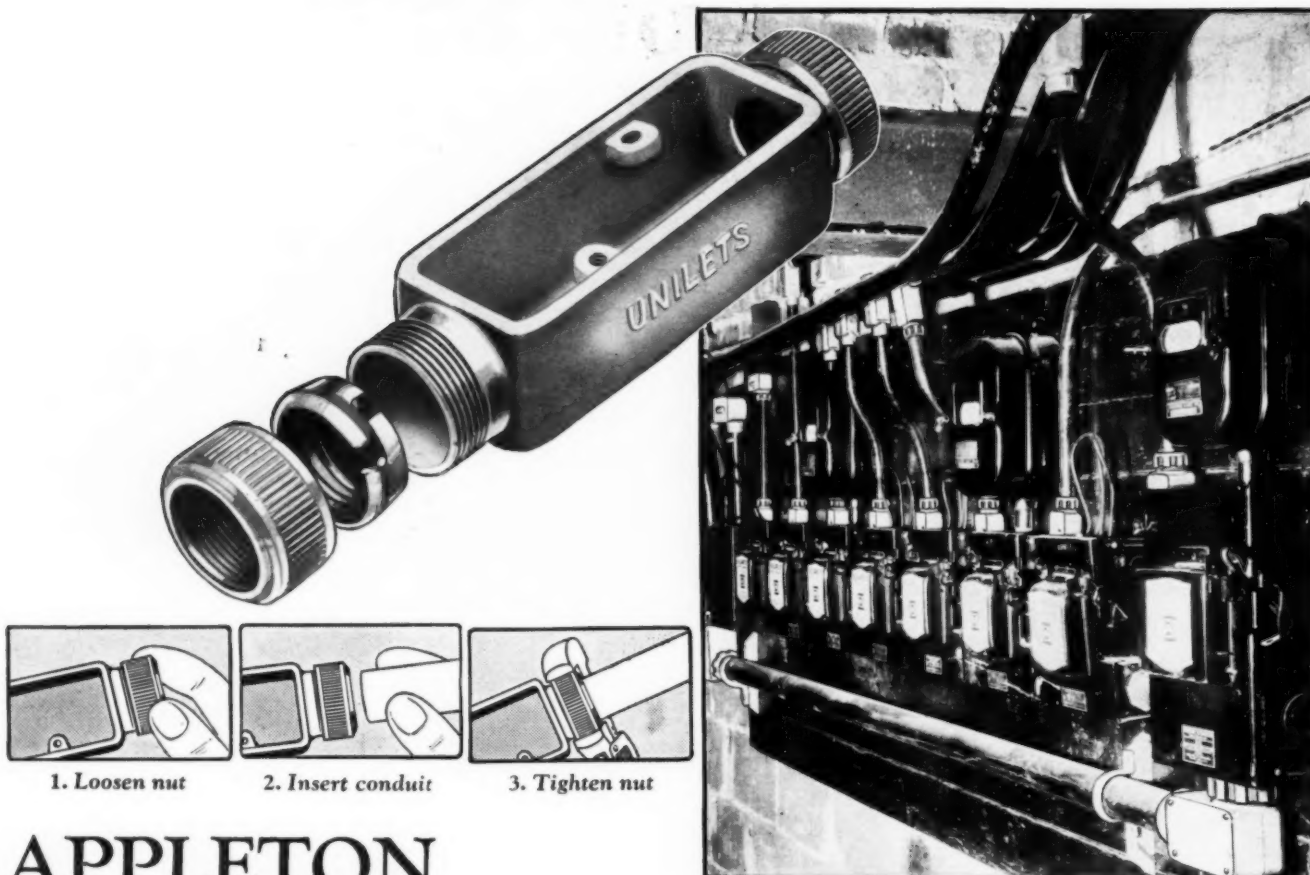
Please send me free samples of the 8 colored wires comprising the "U. S." Rainbow Line.

Name \_\_\_\_\_ Address \_\_\_\_\_

Company \_\_\_\_\_ Title \_\_\_\_\_

**THE RAINBOW LINE OF "U. S." PARACORE WIRES & CABLES**





## APPLETON NO-THREAD MALLEABLE UNILETS . . . . . . . Will Last a Lifetime

Because they are made of malleable iron with a cadmium finish, Appleton No-Thread Unilets are practically corrosion proof. In addition they are unaffected by constant vibration or hammering.

Appleton No-Thread Unilets pay for themselves by their long life and ease of installing. Just loosen the nut—insert the conduit—tighten the nut. That's all there is to it.

The labor cost of threading conduits is saved and installation time is shortened.

There is a size and type of Appleton No-Thread Malleable Unilet for every possible need . . . as shown in Bulletin 9-DA.

Tear out the coupon and fill it in now.

Catalog on request, giving complete listing of Threaded and No-Thread Unilets, and other Conduit Fittings.

*Appleton No-Thread Unilets are listed as Standard by Underwriters' Laboratories in 1/2-inch to 4-inch sizes, inclusive*

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*No-Thread Malleable*

# UNILETS

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Gentlemen:

Please send us a copy of your new Bulletin 9-DA on Malleable No-Thread Unilets, together with prices.

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## In the Editor's Mail



### Don't Let Customer Think of Piece Rate

Editor,

ELECTRICAL CONTRACTING:

This is our method of charging for small jobs as requested by one of your subscribers recently.

When an order is taken for a small job in our shop for repairing a light, or bell, etc., we ask the customer if there isn't some other electric device that could be included in the same call to fill up the hour time that he will be charged for, and very often there is and the only additional charge will be the little extra material. The idea is to educate the customer that he is not paying on a piece work basis.

An explanation I often give is to show him the difference between the cost of sending out and a job done in the shop when installing a socket. When done in the shop our cost is 40 cents for the socket and 50 cents for labor; while if done outside there is a service charge of \$1.75 plus 40 cents for the socket. A mechanic in the shop, however, can install 4 sockets in about the same time it takes him to install one outside—this of course refers to portable devices.

Sometimes we ask a new customer to leave a deposit of two or three dollars and most times he will while he is in trouble. The small job seems real important to him at that time and it is easier to collect at the start than instead of after the work is completed.

We take a lot of pains with our

small jobs and these methods have resulted in keeping new customers on our books who, if left to their own ideas, would either refuse to pay the amount billed or would pay and never return.

George A. Lane.

Brooklyn, N. Y.

\* \* \*

### Deplores Small Order Buying

Editor,

ELECTRICAL CONTRACTING:

It was very interesting reading your article in the May issue of ELECTRICAL CONTRACTING that 42 per cent of the electrical contractors' purchases were less than \$5.00, and the 60 per cent less than \$10.00, and more than twice as many orders for less than ten as were for over fifty dollars.

I believe if this should be further investigated that you would find that no small purchases were due to the electrage class of contractors for no doubt this kind of a record does not spell success. I also believe that the majority of the electrage class of contractors would agree with the wholesaler and jobber to place a differential in which this class of buying would pay the difference. You may call it a fine or penalty, as for myself I believe that kind of buying should get no better consideration than the retail buyer. In the electrical business a short buyer is no good to himself, the public, or the trade.

Schagane Electric Const. Co.,  
Paul F. Schagane.

Flint, Mich.

### Comments on Proposed Symbol Revision

Editor,

ELECTRICAL CONTRACTING:

I note in the June, 1929, issue of ELECTRICAL CONTRACTING a proposed revision of electrical symbols, with a request for comment and suggestions.

The following comments are made from the standpoint of the engineer or craftsman who puts the symbols on the plans, and are backed by several years of experience in the making of layouts.

Practically all of the suggested changes are, it seems to me, a step backward instead of forward, and are a reversion to the old system of symbols (still used by many architects, by the way) which were superseded by the present list in 1924. For example, the proposed symbols for convenience outlets, floor outlets, clocks, etc., are almost exactly like the old style (prior to 1924) symbols. It is so much easier, simpler and quicker to draw a symbol which is based on a circle than to draw one based on a rectangle, that to adopt the proposed symbols for outlets which form such a large percentage of the total nowadays, would, I believe, result in uselessly wasting a large part of the draftsman's time.

Why change the present symbols? Why not merely add to the list to take care of such outlets as radio and other newly developed devices? I have found the present list, with such additions, to be easy to draw and easy for the mechanic to interpret. Again why the need for any revision at this time?

John W. Shallenberger.

Bridgeport, Conn.

\* \* \*

Editor,

ELECTRICAL CONTRACTING:

I note on page 36 of the June, 1929, issue of ELECTRICAL CONTRACTING a list of the proposed electrical symbol revisions. In accordance with invitation therein for criticisms and suggestions, I am accepting the same and voicing the opinion that these revisions are a step backward. With a few exceptions, the current list of standard symbols is satisfac-

(Continued on page 34)

# Who could sell a

**GOGGANS & PENNIE**  
Electrical Contractors  
208 CENTRAL AVENUE  
OFFICE PHONE 4221

Great Falls, Mont.

Butte Electric Supply Co.  
Butte, Montana

Gentlemen:

We would like to express ourselves on the merits of the GE Wiring System, as we have found the same an unqualified success and a boon to our wiring business.

There are six definite reasons for its benefit to the electrical dealer:

- (1) Nationally advertised method of wiring backed up by complete local advertising tie-in.
- (2) High grade standard materials give the job a selling value which puts it out of the purely competitive class of business.
- (3) Complete estimating and contract forms which tend to eliminate any misunderstanding between the dealer and the customer.
- (4) Personal letters to home builders by the GE distributor makes an entree for the dealer to present his proposition to the prospect.
- (5) A name for your wiring installations. Imagine selling a car or washing machine without a name. It simply isn't done and the same logic applies to the advertising and selling of a wiring, just as much as to any other commodity.
- (6) Adoption of the GE Wiring System tends to confine the dealer's purchases to one supply house and one hundred per cent loyalty to your jobber will get a like treatment in return, which, along with the good will of your banker, constitutes the corner stone of the electrical dealer's business.

We would urge that electrical dealers avail themselves of the fine opportunity the GE Wiring System offers.

Yours truly,

GOGGANS & PENNIE

By

*Byrle Pennie*

WET/HK



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Yours respectf

*[Signature]*

The General Electric Wiring System has  
proved profitable to countless electrical dealers  
and contractors . . . are you one of them?

MERCHANDISE DEPARTMENT • GENERAL



# car without a name?

... this successfull contractor  
thinks it would be just as hard  
to sell nameless wiring!

B. C. FOWLER, GUY AND TREAS.

## ric Company

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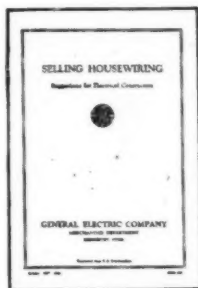
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CONTRACTORS are constantly writing us their opinions of the General Electric Wiring System. We like these letters because they tell us just how our product behaves "out in the field." Take the letter reproduced on the opposite page as an example.

In addition to the all-important fact that this wiring carries the world-known name of General Electric, Mr. Pennie finds five other reasons why the G-E Wiring System has been of real benefit to his business. Briefly they are . . .

- 1—National advertising and local tie-ins.
- 2—High quality materials which take the job out of the purely competitive class.
- 3—Complete estimating and contract forms which do away with misunderstandings.
- 4—Letters from G-E Distributors open the way for G-E Dealers.
- 5—Better relations between dealer and jobber.

Read the whole letter. It is typical of countless others which come to us constantly. And this is more important than anything we can tell you about the G-E Wiring System.



If you want some profitable ideas, why not write today for your copy of "Selling Housewiring?" The coupon below will bring you a free copy.

Section W-227, Merchandise Dept.  
General Electric Co., Bridgeport, Conn.  
I am interested in profitable wiring jobs. Please send me a copy of "Selling Housewiring."

Name .....

Address .....

GENERAL  ELECTRIC  
WIRING SYSTEM

ELECTRIC COMPANY • BRIDGEPORT, CONN.

(Continued from page 31)

tory to most architects, architectural draftsmen and engineers making electrical layouts.

The contrary argument is this: Any draftsman knows that it is easier to draw any symbol with a compass or drop compass (the tool which is used in making small circles on plans) than to draw straight lines in which a "T" square and triangle must be employed. Consequently, one must use four times the amount of labor and time to draw any convenience outlet than is now being used by merely scribing a small circle with two small parallel lines in the center of it. On a large set of drawings, this time amounts to considerable.

I think the old fan receptacle symbol is perfectly satisfactory and is easily recognizable on the plan. Side fan receptacles and ceiling fan receptacles can be differentiated in the same manner that ceiling outlets and side wall bracket outlets are differentiated. The old symbol for floor outlets consisted of a small circle with solid black center and the same argument holds here as it did for the above convenience outlets.

I do not think that it is necessary to differentiate between the double convenience outlets and the single convenience outlet, as this can be taken care of by the specifications. In like manner, the current clock symbol is very satisfactory, it is easier to draw and quickly recognizable and there is no

reason at all for going back to the former clock symbol.

The addition of the radio outlet symbols is commendable, as is also the motor controller symbol, which I also think can be used as a symbol for a safety knife switch.

I have been struggling for the past five years in this territory to persuade my architect clients to use the standard symbols. Architects are naturally conservative and even slow to learn the current symbols. They have just gotten to a point where they can remember what they mean. And now, you propose to change all these! I expect to be thrown out of every architect's office when I propose to change the lists of symbols!

I would be pleased to know what the reason or argument the committee advances for making changes that will involve extra drafting.

Frederick M. Hill.

New Haven, Conn.

\* \* \*

## Armored Cable Wire Colors

Editor,

ELECTRICAL CONTRACTING:

We would very much appreciate your opinion also that of your readers regarding the approval of two conductor armored cable, consisting of one black and one red conductor or two black conductors for use in S.P. switches, also in what is commonly known as the two go-betweens in three way switch construction.

Our local inspection department does not approve the use of a white or natural grey wire in either S.P. or three way switches and bases its ruling on the 1928 Code, Article 5, the fine print following paragraph H.

The Code continues with three suggested methods of overcoming the use of the white wire in such cases. The first by rendering it permanently unidentified by painting or tapping at every visible or accessible point. If this is done it seems to me to be a waste of time and the expense must be passed on to the public.

Another suggestion offered is that the contractor use a three conductor cable and waste the white wire by cutting it off and after this is done he then has left a two conductor cable consisting

of one black and one red. Now we all know that three conductor is more expensive than two.

The third suggestion of so arranging the wire that both sides of the circuit pass through the switch outlet before going to the current consuming outlet. We all know that this procedure is not always practical or economical.

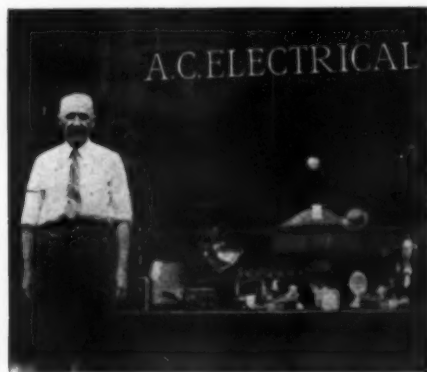
With these facts in mind and after considerable thought we requested our local jobbers to carry a two conductor BX of black and red or two blacks and they complied with our request, said cable bore the manufacturer's continuous mark also the underwriter's label. Shortly thereafter I was advised that a representative from the Bureau of Standards was in our city for the purpose of tracing this cable and ascertain who the manufacturer of same was, at which time he stated said cable was not approved.

If a cable of this nature does not meet with the approval of those in authority, then why is a lead cover cable consisting of two black wires without a white or natural grey wire approved?

Electrical Contractors' Association,

L. M. Robinson, Manager.

Youngstown, Ohio



**THIRTY-FIVE YEARS A CONTRACTOR IN THE SAME BLOCK:**—Albert Wagner, proprietor of the A-C Electrical Co., 1213 E. 55th Street, Chicago, started his business a few doors away in 1894. He does not bar any class of wiring but has made a specialty of re-wiring and old house work.



**OPEN NEW STORE AND SHOP IN MOLINE:**—Leithner & Weishar, electrical contractors in Rock Island, Ill., recently opened an establishment at 418 Sixteenth street in Moline, to operate as a separate unit. F. B. Leithner (left) and Lee W. Davis are shown in front of the new place. This firm goes in for big stuff and recently completed wiring the Scottish Rite Cathedral, the Commercial Savings Bank, Sears-Roebuck's store, International Harvester plant, Rock Island High School Stadium, etc.

# A New Floodlight for a Thousand Uses.



**A Low Priced Floodlight**

*Write for Bulletin 2134*

**CROUSE-HINDS COMPANY**

ESTABLISHED 1897

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AIRPORT and AIRWAY LIGHTING EQUIPMENT • PANELBOARDS and CABINETS • SWITCHES



# Contracting News

*Information of Interest to Electrical Contractors consisting of items of news, short articles, practical ideas, etc. Our readers are invited to contribute to this department.*

## Market Development Program Work Started

The board of directors for the Society for Electrical Development, it was announced by President W. W. Freeman, at the N.E.L.A. convention last month, has approved in principle the modified program for market development submitted by the Industry Sales Conference and has authorized the preparation of general advertising plans, including the financing and underwriting of a national fund which will be devoted to promoting a unified campaign for increasing the use of electricity. Mr. Freeman stated: "We will work in each community in cooperation with all the elements of the industry to increase sales of energy in the household."

The campaign will be based on the sale to the housewife of a complete home electrification plan, rather on the sale of isolated appliances. A complete outline of the national campaign, which it is indicated will be in full swing in 1930 will go out to all branches of the industry when ready.

"Thus, while there is a great deal of ground still to be covered," Mr. Freeman pointed out, "we are on the threshold of a very sincere and very definite effort at the solution of the industry's commercial problem."

\* \* \*

## Ninety-nine Per Cent Red Seal

Ninety-nine per cent of the permits for houses and apartment houses in Toronto, Canada, for the first four months of 1929 went to Red Seal.

Because so large a proportion of new work is Red Seal the Electric Service League is making a drive on older houses, trying to bring them up to Red Seal.

Methods to be used in getting prospects include newspaper advertising, radio broadcasting, circularization of real estate agents, telephoning on newspaper ads, and direct mail. In September a

contractors' meeting will be held on this subject. The league is to have on its staff a lady for contact work with women on behalf of adequate wiring and use of appliances and good lighting.

## Electragists' Convention Program

A partial list of the high-lights announced for the annual convention of the Association of Electragists, International to be held at Swampscott, Mass., on September

president, Electrical Contractors Association of N. Y., New York Chapter No. 1, A.E.I.

"The Electrical Approval Bureau" by A. V. Roche, manager, Electrical Approval Bureau, Inc., St. Louis

"The Industrial Field for Motors" by



The New Ocean House, Swampscott, Where the Electragists' Convention Will be Held

30 to October 4, includes subjects and speakers of unusual interest to all electrical contractors.

The tentative program already prepared includes the following:

"Engineering Considerations in Electrical Contracting" by Allan Coggeshall, president, Hatzel & Buehler, Inc., New York City

"Charting the Course for Trade Associations" by Hugh P. Baker, manager, Trade Association Department, Chamber of Commerce of the United States

"How to Use Commercial Arbitration" by Joseph Mayer, Trades Relations Counsel, American Arbitration Association

"Sound Business Practice through Credit Control" by J. E. Vaughan, Jr., Trade Group Department, National Association of Credit Men

"Stabilizing the Electrical Contracting Business" by John W. Hooley,

Robert A. Balzari, Marketing Counselor, Mc-Graw-Hill Publishing Co., New York

"Indirect Lighting" by Wm. Edwin Clark, Clark & Mills Electric Co., Boston

Monday, the first day, will be given over to registration, golf and motor trips. Tuesday, Wednesday and Thursday mornings will be devoted to business sessions for contractors and dealers only. On Thursday afternoon, there will be a general session for the entire industry with addresses by industry leaders.

The rest of the convention time will be devoted to a well organized and somewhat unusual program of entertainment including an

(Continued on page 91)



MEDICAL ARTS  
AND  
TRANSPORTATION  
BUILDING  
*Unit of*  
CLEVELAND'S  
TERMINAL  
DEVELOPMENT

Architects  
GRAHAM, ANDERSON, PROBST & WHITE  
Chicago

Builders  
THE LUNDOFF-BICKNELL CO.  
Chicago

Electrical Contractor  
HATFIELD ELECTRIC COMPANY  
Cleveland

This magnificent structure in the heart of Cleveland's downtown district is a marvel of modern conception and construction and GALVAKOTE was used in this building for electrical installation.

In a great many other very large and modern buildings throughout the United States is installed either GALVAKOTE or ENAMELKOTE

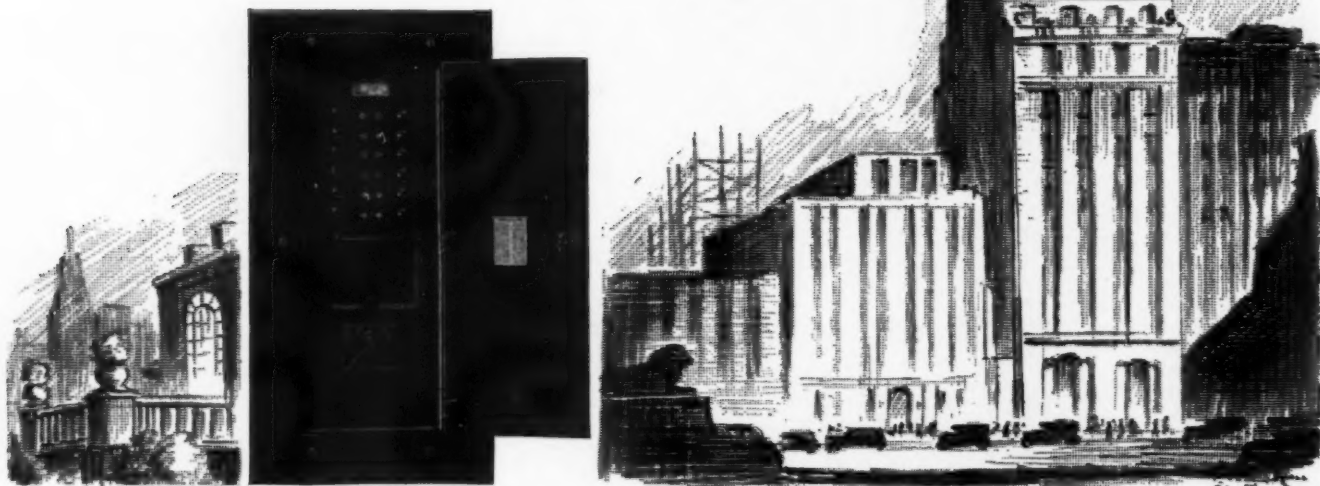
These Super-quality brands of rigid conduit pipe are stocked and distributed by leading Wholesalers of Electrical Supplies everywhere

CLAYTON MARK & COMPANY  
CHICAGO

*Manufacturers of*  
GALVAKOTE and ENAMELKOTE  
SUPER-QUALITY RIGID CONDUIT PIPE

# POSITIVE PROTECTION

## that Safeguards your Reputation



**Y**OU know that there is no possibility of the circuits being overloaded when you install the Westinghouse type NAB Nofuz panelboard. Positive protection is afforded the wiring because the circuit-breaker always trips at its calibrated tripping value. It can't be blocked and it's calibration cannot be altered.

What does that mean to you? It means that the chances of fires due to "faulty electrical wiring", are minimized, thereby lessening your worry. With the present-day appliances and

heaters drawing heavy current—overfusing and the backing of fuses by pennies, are not uncommon. Resultant troubles are not "good-will" builders.

Also, don't forget that with this panelboard the inconvenience, expense and delays incident to fuse replacing, are entirely eliminated.

Safeguard your reputation with the Westinghouse Nofuz panelboard. A line to our nearest office will bring you complete information.



WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY  
BROOKLYN WORKS                      BROOKLYN, N. Y.  
SALES OFFICES IN ALL PRINCIPAL CITIES



# Westinghouse

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*Products for buildings include:*

Circuit-Breakers  
Elevators  
Fans  
Fuses  
Insulating Materials

Lamps  
Lighting Fixtures  
Motors and Control  
Panelboards  
Ranges

Safety Switches  
Solar Glow Heaters  
Switchboards  
Transformers  
Water Heaters



# Suggested RESALE PRICES *for* Wiring Supplies

The prices listed on the following pages are merely suggested resale prices for the commonly used standard supplies and equipment employed in electrical construction work. They are based on average current trade costs throughout the country, very largely obtained from jobbers' price sheets, and are also based on average overhead charges.

\* \* \*

Obviously, prices can be suggested only for the widely used products that are nationally distributed, and under no circumstances is this section intended to function as a directory of products or manufacturers.

\* \* \*

The publishers wish to again emphasize that these are merely *suggested* resale prices and while every effort is made to make them universally applicable and accurate we cannot guarantee them or assume any responsibility for errors.

\* \* \*

The prices appearing in this section will be completely revised each month as trade prices may change.

Copyrighted, 1929

*by the*

Electrical Trade Publishing Co.

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# Suggested Resale Prices for Wiring Supplies

These are merely suggested resale prices for the commonly used products that appear regularly on jobber price lists. They are figured on generally accepted principles for computing resale prices and should cover average conditions but are not guaranteed. (See note on title page.)

## A-SUNDRIES

### ASBESTOS

Asbestos Millboard—Per Pound—25c.

### ANNUNCIATORS

#### House Type

No. Drops	Edwards 81 Dixie	No. 91 White Enam.	Ansonia 301 to 309	P & W "Compe- tition"	P & W "Auto- matic"
2 Drop	\$10.00	\$13.20			
3 "	11.75	15.00	\$10.00		
4 "	13.25	16.75	11.00	\$13.40	\$16.60
6 "	16.75	19.75	15.00	16.75	20.00
8 "	19.75	23.10	17.00	20.00	25.20
10 "	23.00	26.50	19.50	23.40	30.00
12 "	26.50	29.75	22.70	28.25	
14 "			25.25		
16 "			28.00	34.75	
Ex. Drops ea.	2.25	3.00			

(All other Annunciators—Sell at List less 10%)

### COUCH

Number of Drops	Style D Flush Type Wood Face		Style F Flush Wood Face		Style F Flush Metal Face	
	Number	Price	Number	Price	Number	Price
4	DA 4	\$21.50	FA 4	\$44.80	FA 4	\$49.80
6	DA 6	26.50	FA 6	49.30	FA 6	55.00
8	DA 8	31.50	FA 8	53.80	FA 8	59.70
10	DA 10	36.50	FA 10	58.25	FA 10	64.70
12	DA 12	43.10	FA 12	64.25	FA 12	71.30
15	DA		FA 15	73.10	FA 15	81.50
16	DA 16	56.50				
20	DA 20	69.75	FA 20	88.15	FA 20	98.00

Add for each drop on any of above—\$4.15 per drop

### ADAPTORS—REDUCERS

#### For Sockets

	Bryant	Benjamin	G. E.	Hubbell	Weber	Price
Medium to	Candelabra	392	35699		392	\$ .25
"	Miniature	391				.20
"	Mogul	421	98	070	292	.50
"	Parallel Blades	KF	1006	682		.30
"	Intermediate	9691	2644	492		.25
T Slot	Tandem Blades	KL	1684	6771		.50
"	Parallel Blades			6772		.50

### SOCKET EXTENSIONS

Benjamin No. 91 Socket Extension—Ea.	\$ .40
No. 119 Socket Extension for New Type A Mazda Lamps—Ea.	.15

### ATTACHMENTS FOR PULL SOCKETS

For 8" to 14" Reflectors No. 5828—5829—5957—5958	\$ .55
For 16" to 20" Reflectors No. 5953—5954—5959—5960	.60

### ADJUSTERS

#### For Cords

	Price
Universal Cord Adjuster Standard No. 1417 3/4" Long	\$ .10
" " " Factory No. 1418 5/8" Long	.20
" " " Reinforced No. 1419 5/8" Long	.22
Ball Type No. 1403 & 5 for Type C Cord	.08
" " No. 4634 & 5 for Reinforced Cord	.10

### ACORNS

Hubbell No. 5919 Acorn Adjustable for Linen Cord	\$ .10
" No. 6982 " Standard for Pull Sockets	.10
" No. 7004 " Candelabra Detachable	.10
" No. 7016 or Bryant 750 Luminous Acorn	.30
" No. 3946 Tassel Acorn	.10

## BOXES, SWITCH

### STANDARD SWITCH BOXES

Description	Depth	Gem Nos. or Similar	Price Each
For Loom Without Clamps	2 & 2 1/4"	A-C-D-E & S	\$ .20 \$ .22
" " With 2 Loom Clamps	2 1/4"	F	.15 .17
For Metallic Cable with Clamps	2 & 2 1/4"	X & XS	.20 .23
" " " " "	3"	Y	.34 .37
For Rigid Conduit with't Clamps	2-2 1/4-2 3/4"	B-BM & BS	.20 .22
" " " " "	1 1/2"	R	.22 .25
" " " " "	3 1/2"	BD	.34 .37
Spacers—For Spacer for any box deduct from box price			.04 .05

### BRACKET SWITCH BOXES

Gem or Similar	Depth	Gem Nos. or Similar	Price Each
For Loom, Lath Supports—No Clps.	2 1/4"	FB	\$ .25 \$ .30
For Loom, Lath Supports—with Clps.	2 1/4"	FCB	.28 .33
For Metallic Cable, Lath Supports with Clamps	2 & 2 1/4"	XB & XSB	.34 .39
For Rigid Conduit, Lath Supports No Clamps	2 & 2 1/4"	BB & BSB	.30 .35

### LOCKTITE SWITCH BOXES

Gem or Similar	Depth	FT	Price Each
For Loom with Mtg. Ears without Clamps	2 1/4"	FT	\$ .24 \$ .29
For Loom with Mtg. Ears & Clps.	2 1/4"	FCT	.27 .32
For Metallic Cable, Mtg. Ears & Clamps	2 & 2 1/4"	XT-XCT-XST	.33 .38
For Rigid Conduit, Mtg. Ears without Clamps	2 & 2 1/4"	BT-BST	.29 .34

### SECTIONAL SWITCH BOXES

Union or Similar	Boxes	Spacers
For Loom or Rigid Conduit 1 1/2" Deep No. 170	Black Galvd.	Black Galvd.
For Rigid Conduit 2 1/2" Deep—2 Gang No. 160	.87 .95	\$ .24 \$ .27 \$ .20 \$ .23

### SOLID DRAWN SWITCH BOXES

Union or Similar	Single	2 Gang	3 Gang
Solid Drawn for Loom 2 1/2" Deep Type SS Black	\$ .16	\$ .31	\$ .46
" " " Rigid Conduit No. 180-181-187-Galv.	.26		
" " " with Lath Support, 181-BB-GALV.	.26		

### TANDEM SWITCH BOXES

Loom, Cable, Conduit	2 Gang	3 Gang	4 Gang	2 Gang	3 Gang	4 Gang
Tandem Boxes 1 1/2" & 2" Deep	\$ .68	\$ 1.10	\$ 1.63	\$ .82	\$ 1.24	\$ 1.90
" " " 2 1/2" & 2 3/4" "	.81	1.23	1.90	.95	1.37	2.18

### DOOR SWITCH BOXES

Union No. DS-1-3 & 5	Black	Galvd.
Appleton 7010-12-14 without Clamps	\$ .52	\$ .62
" No. DS-2-4 & 6 " 7011-13-15 with Clamps	.62	.72

### LAUNDRY BOX

Gem or Appleton—with Receptacle	Single	Double
	\$ 1.00	\$ 1.40

## SWITCH BOX SUPPORTS

Any Make	Each
For Concrete Boxes See Page PL-5	\$ .20
For Solid Gang Boxes See Page PL-5	

## BOXES & COVERS, OUTLET

### BOXES, OCTAGON & SQUARE

Covers Priced Separately

Univ. No.	Size	Depth	Knockouts	Price Each		
			Bottom	Side	Black	Galvd.
24151	3 1/4" Oct. Deep	1 1/2"	1-1 1/2"	4-1 1/2"	\$ .14	\$ .16
24151	3 3/4" " "	1 1/2"	1-1 1/2"	4-1 1/2"	.16	.18
24155	3 3/4" " "	1 1/2"	7-1 1/2"	8-1 1/2"	.16	.18
26121	3 3/4" Round Shallow	3/4"	2-1 1/2"		.15	.17
26125	3 3/4" " "	3/4"	9-1 1/2"		.14	.16
26126	3 3/4" " " No Ears	3/4"	9-1 1/2"		.13	.15
36113	3 3/2" " "	1 1/2"	9-1 1/2"		.14	.16
36114	3 3/2" " "	1 1/2"	9-1 1/2"		.12	.14
36115	3 3/2" " "	1 1/2"	7-1 1/2"		.14	.16
36116	3 3/2" " "	1 1/2"	8-1 1/2"		.12	.14
51151	4" Sq. Deep	1 1/2"	5-1 1/2"	8-1 1/2"	.22	.25
52151	4" " "	1 1/2"	5-1 1/2"	10-1 1/2"	.20	.24
52151	4" Oct. " "	1 1/2"	5-1 1/2"	10-1 1/2"	.22	.26
54151	4" " " "	1 1/2"	5-1 1/2"	4-1 1/2"	.17	.20
54151	4" " " "	1 1/2"	5-1 1/2"	5-1 1/2"	.30	.23
54155	4" " " "	1 1/2"	9-1 1/2"	8-1 1/2"	.25	.28
54171	4" " " "	2 1/2"	5-1 1/2"	4-1 1/2"	.30	.35
56111	4" Round Shallow	1 1/2"	5-1 1/2"		.13	.15
56111	4" " " "	1 1/2"	4-1 1/2"		.16	.20
56112	4" " " "	1 1/2"	4-1 1/2"		.10	.12
56115	4" " " "	1 1/2"	9-1 1/2"		.14	.16
56116	4" " " "	1 1/2"	9-1 1/2"		.11	.13
56121	4" " " "	1 1/2"	5-1 1/2"		.17	.20
56122	4" " " "	1 1/2"	5-1 1/2"		.13	.16
56125	4" " " "	1 1/2"	9-1 1/2"		.32	.37
72151	4-11/16" Sq. Deep	1 1/2"	5-1 1/2"	8-1 1/2"	.....	.55
72171	4-11/16" " "	2 1/2"	5-1 1/2"	8-1 1/2"	.....	.65

## COVERS, ROUND

For 3 1/4" &amp; 4" Octagon &amp; Round Boxes

Universal No.	Size	Description	Price Each	Black	Galvd.
24C-1	3 1/4"	Flat Closed Cover Blank 3 1/4"	\$ .06	\$ .08	
24C-2	"	Raised 3/8" Closed Cover Blank	.06	.08	
24C-6	"	Flat with 1/2" KO	.07	.09	
24C-7	"	Raised with 1/2" KO	.08	.10	
24C-12	"	Raised 3/8" Hole, for Cord or Bush	.08	.10	
24C-28	"	Spider Flat for Surf. Mntd. Devices	.10	.12	
24C-31	"	Raised 3/8" Opng. for Sign Recep.	.08	.11	
24C-33	"	Flat Opng. 3/8" for Spec. Sign Recep.	.23	.25	
24C-35 & 36	"	Raised Opng. 3/8" for Scrw Sign Recep.	.08	.10	
54C-1	4"	Flat Closed Cover	.08	.10	
54C-2	"	Raised 3/8" Closed Center	.08	.11	
54C-3	"	Raised 3/8" Opening 2 3/4"	.11	.13	
54C-6	"	Flat with 1/2" KO	.08	.11	
54C-7	"	Raised 3/8" with 1/2" KO	.10	.12	
54C-12	"	Raised with Opening for Cord	.09	.11	
54C-28	"	Flat for Surface Mounted Devices	.10	.12	
54C-31	"	Raised for Sign Receptacles	.10	.12	
54C-35 & 36	"	" " " "	.10	.12	
1172	3 1/4"	Porc. Round Cov. for 3 1/4" Box with hole	\$ .20		
1173	4"	Porc. Round Cov. for 4" Box with hole	\$ .30		

## COVERS, SQUARE

For 4" &amp; 4-11/16" Square Boxes

Universal No.	Size	Description	Price Each	Black	Galvd.
52C-1	4" Sq.	Flat Closed	\$ .09	\$ .12	
52C-2	"	Raised Closed Center	.12	.14	
52C-3	"	" with 2 3/4" Opening	.15	.18	
52C-6	"	Flat with 1/2" KO	.12	.14	
52C-7	"	Raised with 1/2" KO	.17	.20	
52C-12	"	" " " " " " " "	.14	.16	
52C-13	"	Raised 1/2" For Single Flush Devices	.12	.14	
52C-15	"	" " " " " " " "	.13	.16	
52C-16	"	" " " " " " " "	.18	.20	
52C-17 & 18	4"	Raised 3/8" For Two Flush	.22	.24	
52C-19	"	Raised 1/2" For Two Flush	.26	.28	
52C-21	"	Raised 1 1/4" For Two Flush	.28	.30	
52C-28	"	Flat For Surface Mounted	.18	.20	
52C-35 & 36	4" Sq.	Raised for Sign Receptacles	.18	.20	
52C-48	"	Raised with 2 3/4" Opening	.13	.15	
52C-62	"	Raised 1/2" For Single Flush Devices	.12	.14	
72C-1	4-11/16" Sq.	Flat Closed	.30	.36	
72C-2	"	Raised Closed Center	.30	.36	
72C-3	"	Raised 2 3/4" Opening	.40	.40	
72C-12	"	Raised with Hole for Cord	.40	.40	
72C-14	"	Raised 3/8" For Single Flush Devices	.43	.43	
72C-18	"	Raised 3/8" For Two Flush	.55	.55	
72C-48	"	Raised 2 3/4" Opening	.40	.40	

## For Exposed Work

Universal No.	Description	Price Each	Black	Galvd.
N-8490 to 8493	4" Cover For One Push or Toggle Switch or one Single or Duplex Receptacle	\$ .25	\$ .30	
N-8493A to 8500	4" Cover For Two Push or Toggle Switches or Two Receptacles or any combination of two devices	\$ .35	\$ .40	

EXTENSION RINGS  
For Flush Devices

Universal No.	Description	Price Each	Black	Galvd.
25151-27151	3 1/4" Octagon Ring—1 3/4" Deep	\$ .27	\$ .29	
53151-55151	4" Square or Octagon Ring—1 3/4" Deep	.30	.32	
55171	4" Octagon Ring—2 1/4" Deep	.48	.54	

## HANDY OR UTILITY BOXES &amp; COVERS

Univ. No.	Appleton No.	G. E. No.	Description	Black or Galvd.	Price
58361	4-CS	55361	Box 4 x 2 1/2 x 1 1/2 Approx. Size		\$ .25
58361	3-OS	3400	" 3 1/2 x 2 1/4 x 1 1/8		.30
58151	4-SS	"	" 4 x 1 1/2 x 1 1/2		.30
58371	4-SSL	"	" 4 x 2 1/2 x 2 1/2		.30
58371	4-SSLD	"	" 4 x 2 1/2 x 2 1/2		.55
58C1	2540	34R1	Cover Flat Steel Closed		.13
58C11	2541 to 4	"	" " Porcelain 1-2-3-4 Hole		.18
58C11	2550 to 53	"	" " Steel with 1/8 or 3/8 Nip.		.30
58C28	2556	"	" " For Snap Switches		.20
58C36	2557-8	"	" " Sign Receptacles		.20
58R3	2537	34R3	Cover For Push Button Switches		.25
58R5	2539	34R5	" " Single Receptacles		.25
58R7	2510	34R7	" " Duplex Receptacles		.25
58R7	2594	34R14-15	" " Toggle or Tumbler Switch		.25

## CONCRETE BOXES WITH COVERS

Galvd. Only

Depth	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"	5"	6"
Complete with Plate & Stud	\$ .35	\$ .40	\$ .40	\$ .45	\$ .50	\$ .55	\$ .60	\$ .70
less " " "	.30	.35	.35	.40	.45	.50	.55	.65

## SOLID GANG BOXES &amp; COVERS

Galvd. Only	2 Gang	3 Gang	4 Gang	5 Gang	6 Gang	7 Gang	8 Gang
Box Price	\$ .80	\$ 1.20	\$ 1.65	\$ 2.10	\$ 2.60	\$ 3.35	\$ 4.50
Cover	.40	.60	.80	1.00	2.00	3.35	3.70

## BOXES, OUTLET

## ARMORED CABLE BOXES

Comparative Numbers

Size	Stud	Clamps	Bush	Union	Nat.	Met.	Steel	Price
3 1/4 x 1 1/2 Round	Yes	Two	No	Chicago	Appleton	Prod.	City	
3 1/4 x 1 1/2 Oct.	"	"	Two	1288XS	544L	2355	36151XS	.35
3 1/2 x 1 1/2 Round	No	"	No	1286	"	"	24151XS	.35
3 1/2 x 1 1/2 Oct.	Yes	"	Two	1287XS	532L	"	36125XS	.30
4 x 1 1/2 Oct.	"	"	"	1291XS	530L	2345	54151XS	.40
4 x 1 1/2	No	"	"	1291X	542L	2348	54151X	.35

Hope  
Boxes No. 2-4-12-14 Straight Electric or Combination Each. \$ .20  
G. E.  
Boxed 5200 & 5201 " " " " " " " " .20  
Thomas & Betts  
No. 565-66-67-68 Standard Cable Box. .20  
No. 553-54-55-56-57 Dead Ground Type. .30

## BAR HANGERS FOR OUTLET BOXES

Without Boxes

(With 3/8 Fixt. Stud)	Appleton	Austin	G. E.	Hemco	Steel	Union	Price
Straight 18" Bar	SBH	900	6600	20	6000	10	\$ .25
Straight 24" Bar	SBHL	900A	6601	24	6000	10A	.35
Shallow 19 1/2" Offset Bar	BHS	905	6602	21	6001	11	.30
Shallow 24" Offset Bar	BHSL	"	"	"	"	"	.35
Deep 19 1/2" Offset Bar	BHD	915	6603	22	6002	12	.30
Deep 24" Offset Bar	BHDL	"	"	"	"	"	.35
Straight Old Workbar	BHOW	920	6604	23	6003	13	.20
Universal Box Cleat	CBH	910	6605	24	6005	14	.15
Straight Saddle Bar 18"	XBH	"	"	"	"	"	.20

BAR SETS  
Complete with Boxes

For	Size	Ears	Clamps	Bush	Appleton	Steel	Price
Loom	3 1/2 x 1 1/2 Round	None	None	None	498L	36116B	\$ .35
"	" " " "	Yes	None	"	498LC	36116BC	.40
"	" " " "	"	"	"	521L	36115B	.40
"	" " " "	"	"	"	521LC	36115BC	.45
Cable	3 1/2 x 1 1/2	None	"	"	"	"	.35
"	3 1/2 x 1 1/2	"	"	Two	532L	"	.40
"	3 1/4 x 1 1/2 Oct.	Yes	"	None	"	"	.45
"	4 x 1 1/2	"	"	Two	539L	"	.50
"	4 x 1 1/2	"	"	None	"	"	.50
Conduit	4 x 1 1/2 Round	None	None	None	545L	"	.55
"	" " " "	Yes	None	"	BH4C	56112B	.35
"	" " " "	"	"	"	BH4CL	56111B	.40

For	Size	Ears	Clamps	Bush	Union	Price
Loom	3 1/2 x 1 1/2 Round	None	None	None	Chicago	\$ .35
"	" " " "	Yes	Two	"	260B	.40
"	" " " "	"	"	"	260CB	.40
"	" " " "	"	"	"	261B	.40
"	" " " "	"	"	"	261CB	.45
Cable	3 1/2 x 1 1/2	None	"	"	"	.35
"	3 1/2 x 1 1/2	"	"	Two	1286B	.40
"	3 1/4 x 1 1/2 Oct.	Yes	"	"	1287XB	.45
"	4 x 1 1/2	"	"	Two	1289XB	.50
"	4 x 1 1/2	"	"	None	1290XB	.50
Conduit	4 x 1 1/2 Round	None	None	None	1290XB	.55
"	" " " "	Yes	"	"	109B	.35
"	" " " "	"	"	"	109LB	.40

## BUSHINGS &amp; LOCKNUTS

## BUSHINGS &amp; LOCKNUTS

For Rigid Conduit

	1/2"	3/4"	1"	1 1/4"
Locknuts—Each	\$ .01	\$ .01 1/4	\$ .03	\$ .06
Bushings—Each	.02	.03	.08	.10
Locknuts—Each	1 1/2" \$ .10	2" \$ .14	2 1/2" \$ .24	3" \$ .38
Bushings—Each	.13	.24	.35	.55
				1.00
				1.65

## PORCELAIN CLAMP BUSHINGS

"Federal" or Equivalent

No.	K. O.	Inside Size	Outside Size	Wire Size	Bushing Each	Extra Ring Each
A-1	1 1/2"	1 1/2"	1 3/4"	No. 10	\$ .08	\$ .04
A-1 1/2	1 3/4"	1 3/4"	2"	No. 10	.10	.04
A-2	2"	2"	2 1/4"	No. 8	.10	.04
A-3	2 1/4"	2 1/4"	2 3/4"	No. 3	.12	.05
A-4	2 3/4"	2 3/4"	3"	No. 00	.16	.07
A-5	3"	3"	3 1/4"	450 CM	.23	.10
A-6	3 1/4"	3 1/4"	3 3/4"	1 Mill. CM	.46	.12
B-1	1 1/2"	1 1/2"	1 3/4"	No. 10	.21	.04
K-1	1 1/2"	1 1/2"	1 3/4"	No. 10	.32	.04
K-2	1 1/2"	1 1/2"	1 3/4"	No. 8	.37	.05

## "MULTI" PORCELAIN CLAMP BUSHINGS

No.	Inside Size	Outside Size	For Wires	Price Each	Complete
10	1/2"	1/2"	14 B & S	\$0.08	
12	5/8"	5/8"	14 B & S	.12	
15	3/4"	3/4"	14 B & S	.10	
20	7/8"	7/8"	6 B & S	.10	
30	1"	1"	2 B & S	.12	
40	1 1/8"	1 1/8"	000	.20	
50	1 1/4"	1 1/4"	350,000	.30	
55	1 3/8"	1 3/8"	600,000	.38	
60	1 1/2"	1 1/2"	1,000,000	.45	

## PORCELAIN NO CLAMP BUSHINGS

Multi- With Spring Clip, Not Threaded

Catalog No.	Multi	90A	90B	91	92A	92B
Size of Hole	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
To Fit Hole	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Price	\$ .06	\$ .06	\$ .06	\$ .07	\$ .07	\$ .07

# Noark

## Meter Service Devices



### "You said it!"

Why should any contractor try to estimate the labor and materials involved in hooking up branch circuits when the simplest kind of figuring will show him that he can do a better job at less expense with

### Noark Branch Circuit Attachments"

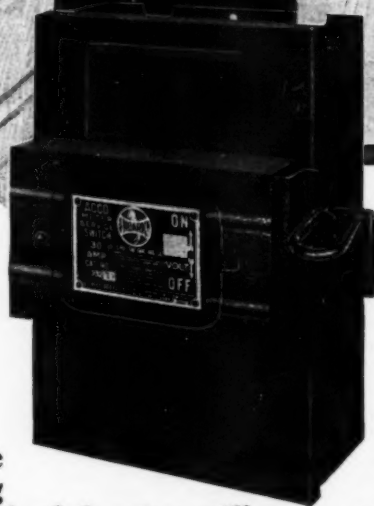
These devices are standard for two or four branch circuits. A threaded coupling and lock nut permit quick attachment to standard meter service switches. Assembled with necessary wires (identified neutral) and so wired that they may be connected on either a two or three wire service.

**COLT'S PATENT FIRE ARMS MFG. CO.**  
ELECTRICAL DIVISION

**HARTFORD, CONNECTICUT, U. S. A.**

33-52

NEW YORK • BOSTON • PHILADELPHIA • CHICAGO • SAN FRANCISCO



Noark Branch Circuit Attachments consist of a specially designed fuse block enclosed in a metal cabinet with hinged cover.

A "dead front" plate conceals all wiring and prevents contact with live parts.

Just the thing for use with  
Noark Acco or Seco  
Switches



Catalog on Request



*Wire  
for  
Safety*



The Grand Ballroom of the Palmer House, Chicago. The entire building is wired with American Steel & Wire Company Electrical Wires.

### **Americore RUBBER COVERED WIRE**

**W**HEN you purchase Americore Rubber Covered Wire you are assured of a quality wire that is backed by the reputation of the American Steel & Wire Company, and made in accordance with specifications of the National Electrical Code Standard. It is a high-grade rubber covered wire, meeting all National Code requirements and can be recommended for all service conditions in which the working pressure is 7,000 volts or under.

For safety, use Americore Rubber Covered Wire. Made in all sizes. Our sales offices are ready to serve you. Call on the one nearest you.



## **Americore RUBBER COVERED WIRE FOR INTERIOR WIRING**

*We also make high grade 30% wire and insulate wire to any specification covering particular requirements.*

### **American Steel & Wire Company**

*Subsidiary of United States Steel Corporation*

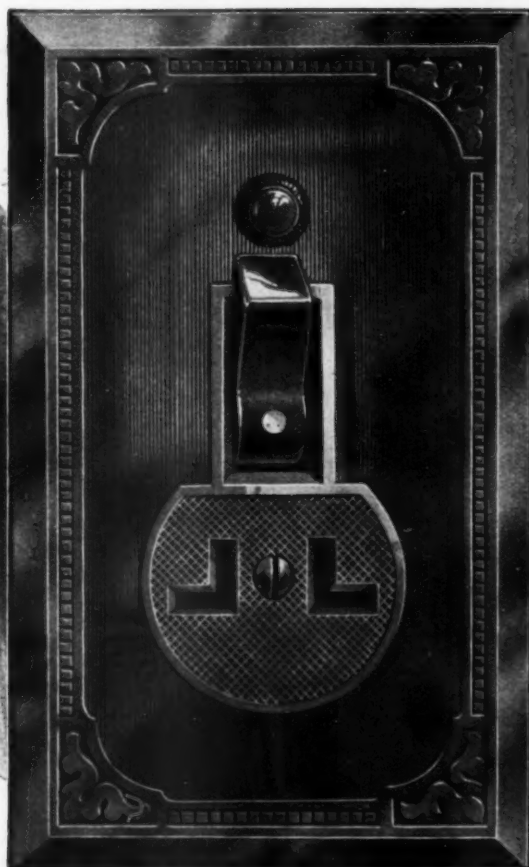
208 S. La Salle Street, Chicago

30 Church Street, New York

Other Sales Offices: Boston Cleveland Worcester Philadelphia Pittsburgh Buffalo Detroit Cincinnati Baltimore  
Wilkes-Barre St. Louis Kansas City Minneapolis-St. Paul Oklahoma City Birmingham Atlanta Memphis Dallas Denver Salt Lake City  
U. S. Steel Products Company: San Francisco, Los Angeles, Portland, Seattle Export Distributors: United States Steel Products Co., 30 Church St., New York

# ARROW

## A Combined Switch and Convenience Outlet



No. 548

### *Beauty == Utility == Economy*

This ARROW Device has Many Advantages over the separate installation of a Switch and Receptacle.

It Occupies the space of One Device — uses only One Single Box — Saves Installation Time.

It also places the Convenience Outlet in a Handy Position; no stooping under tables, etc., to find the outlet.

The Bakelite Plate and Indicating Handle are Shock Proof.

No. 548 has been installed in Hospitals — Office Buildings — Hotels — Steamships.

Ideal installations may be made in Kitchens — Laundries — Bathrooms.

For further information write for Arrow Catalog No. 23½ listing a Complete Line of Wiring Devices.

## ARROW ELECTRIC DIVISION

THE ARROW — HART & HEGEMAN ELECTRIC CO.

HARTFORD, CONN.

# POWER



## Ring up the BUYING HABIT on your cash register!



FOR over 33 years we have been making batteries that last longer and sell faster. Consumer preference now dictates the happy habit of buying Evereadys.

Cash in on this buying habit! Make it ring on your cash register. Because so many people mean Evereadys when they ask for dry batteries, the time required to complete the sale is cut to the bone. *Your* time is saved.

How much is your time worth to you? Put the time saved in selling Eveready Dry Batteries in the cash register. That's the *extra* profit on these batteries. Order from your jobber today!

NATIONAL CARBON COMPANY, INC.  
Chicago  
New York      Kansas City      San Francisco



Unit of Union Carbide  
and Carbon Corporation



## Boxes. Floor

### Bell Push Buttons, Etc.

Size	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/4"
Without Locknut.....	\$ .05	\$ .11	\$ .14	\$ .15	\$ .20	\$ .30	\$ .45	\$ .85
With Locknut.....	.09	.15	.18	.24	.30	.45	.77	1.15
<b>Black Composition.....</b>					<b>1 1/4"</b>	<b>1 1/2"</b>	<b>3"</b>	<b>3 1/2"</b>
<b>For Sockets.....</b>					<b>\$ .01</b>	<b>\$ .02</b>	<b>\$ .03</b>	<b>\$ .08</b>

## BOXES, FLOOR

Full- man" Steel City Co.	"Lat- robe" Fullman Mfg. Co.	Russ- sell & Stoll	Description	Price
477	110	2580	Comp Out. with Std. Rec. & Bell Nozzle	\$3.90
490	100	2590	" " " " Less Std. Rec. with Stem Nozzle	3.50
490	100	2590	Comp. Out. Less Std. Rec. less Nozzle	2.45
491	....	....	Comp. Out. with 20A. Polarz. Rec. & Bell Noz.	4.90
499	300	....	Midjet Out. with 10A. Recept. No Nozzle	2.45
495	....	....	Square Out. Less Recept. with Bell Nozzle	4.35
496	....	....	Square Out. With 15 Amp. Rec. & Bell Nozzle	5.40
497	....	....	Sq. Out. With 25 A. Rec. & Large Bell Nozzle	8.60

400	120	2502	Complete-Shallow Box—Less Receptacle	\$4.35
400	....	....	Complete-Deep Box—Less Receptacle	5.25
401	130	....	Complete-Shallow Box With Receptacle	5.40
401	....	....	Complete-Deep Box With Receptacle	6.30
420	....	....	Complete Large Size Box Without Receptacle	4.90
421	....	....	Complete Large Size Box With Receptacle	6.00

441	251	2511	Single Gang with $\frac{1}{2}$ " Cover Plate.....	\$ 5.40
442	252	2512	Two " " " " " " .....	10.80
443	253	2513	Three " " " " " " .....	16.20
444	254	2514	Four " " " " " " .....	21.60
445	....	2515	Five " " " " " " .....	27.00
Extra	For 2" Cover Plate, Per Gang.....			.65
Extra	For Special Receptacles Latrobe No. T-208, Each Receptacle... ..			1.00

No. 100	Complete with Receiptable.....	\$4.00
No. 200	" " with Receiptable.....	4.00
No. 1200	Complete without Receiptable.....	2.70
No. 1100	Complete with Receiptable.....	9.00
No. 8000	Utility Outfit with Receiptable.....	.80

## BOXES, CUTOUT

Width Short Side	Length. Long Side	3" Deep	4" Deep	6" Deep	Width Short Side	Length Long Side	3" Deep	4" Deep	6" Deep
4½	5	50	.....	.....	12	18	.....	\$ 1.70	\$ 4.15
4½	9	50	.....	.....	12	24	.....	4.85	5.60
4½	9	55	.....	.....	12	30	.....	10.75	12.40
6	6	55	\$ .65	\$ 1.20	15	15	.....	3.65	4.15
6	8	65	.75	1.45	15	18	.....	4.15	4.75
6	9	65	.75	1.80	15	24	.....	5.70	6.60
6	10	.70	.85	.....	15	30	.....	13.35	15.30
6	12	.75	.90	1.90	18	18	.....	4.80	5.40
6	15	.85	1.00	.....	18	21	.....	10.75	12.55
8	8	.70	.85	1.70	18	24	.....	12.20	14.05
8	10	.85	.95	2.00	18	30	.....	15.20	16.65
8	12	.90	1.00	2.25	18	36	.....	17.85	19.50
8	15	1.00	1.10	.....	18	40	.....	19.50	21.33
8	18	1.20	1.35	.....	24	24	.....	15.30	17.45
9	9	.70	1.00	2.30	24	30	.....	19.20	20.80
9	12	.85	2.16	2.60	24	36	.....	22.50	24.05
10	10	.90	2.05	2.35	24	40	.....	24.30	26.55
10	12	1.00	1.20	2.60	24	44	.....	41.30	45.00
10	15	1.15	1.35	3.10	30	30	.....	27.10	29.60
10	18	1.35	1.60	3.60	30	36	.....	41.50*	47.60
12	12	2.25	1.35	3.00	30	42	.....	48.80	53.00
12	15	2.40	1.65	3.50	30	48	.....	56.70	61.20

**For Galvanized Boxes Add 20% to above prices.**

## BELLS & BUZZERS

Name	No.	Description	Buzzer	214 <sup>7</sup> Bell	3 <sup>7</sup> Bell	4 <sup>7</sup> Bell	Cow or Sleigh
.....	656	Szle. Coil Non Adjust.	\$ .45	..50	.....	.....	.....
.....	657	Dble. Coil Non Adjust.	.50	.55	.....	.....	.....
.....	652	Dble. Coil Round Non Adjust. ....	.60	.65	.....	.....	.....
Wizard	650	Dble. Coil Non Adjust.	.90	.95	.....	.....	.....
Eureka	641	Dble. Coil Adjust. Class B. ....	1.00	1.05	\$1.25	\$1.60	\$1.90
Acme	631	Dble. Coil Adjust. Class A. ....	1.35	1.40	1.50	1.85	2.15
Eureka	621	Dble. Wood Box Bell	1.30	1.35	1.45	1.70	1.90
Monitor	658	Round Type	.....	1.55	.....	.....	.....
Monitor	661	Round Type	.....	1.55	.....	.....	.....
Wizard	660	Comb. Bell & Buzzer	.....	1.25	1.35	.....	.....
Wizard	655	Buzzer Oak Mat	1.75	.....	.....	.....	.....
Wizzard	666	Watch Case Buzzer	1.30	.....	.....	.....	.....
Ansonia	663	Comb. Bell & Buzzer	.....	1.00	1.10	.....	.....

Edwards				
Name	No.	Size	Description	Price
Nubel	735	2 1/4"	Two Coil Non-Adjust.—Gray Enam. Bell	\$ .65
	736		" " " " Buzzer	.60
Dixie	730	2 1/2"	" " Class C—Non-Adjust. Bell	.95
	725		" " " " Buzzer	.90
Combelle	737	2 1/4"	Two Coil Non-Adjust.—Gray Enam. Bell & Buz.	1.15
Tubell	738		Dble. Coil Non-Adjust.—Gray Enam. Two Bells	1.25
Cadet	710	2 1/2"	Two Coil—Class B—Adjust. Bell	1.05
	715		" " " " Buzzer	1.00
"	712	3"	" " " " Bell	1.25
"	714	4"	" " " " Bell	1.60
	x		" " " " Cow or Sleigh	1.20
Buz-A-Bell	730	2 1/2"	Two-Coil—Class C Comb. Bell & Buzzer	1.90
Monitor	156	3"	Monitor Bell—Nickel Plated Gong	1.55
Bronx	750	1 3/4"	Nickel Watch Case Buzzer	1.30

Size	Price
1".....	\$2.00
1 1/2".....	1.80
2 1/2".....	1.90
3 1/2".....	2.00
4".....	2.20
6".....	6.60
Cow or Sleigh.....	2.25

Size	No.	Price
1 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	No. 0	\$1.85
2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	No. 1	1.60
2 $\frac{1}{2}$ " x 1 $\frac{1}{2}$ "	No. 2	1.70
3" x 2"	No. 3	2.00
3 $\frac{1}{2}$ " x 2 $\frac{1}{2}$ "	No. 4	2.20

### Iron Box Bells

Small 2½" Iron Box Bell Non-Adjust. Dble. Magnet.....	\$ .75
Fancy Gong Cow or Sleigh Non-Adjust. Dble. Magnet.....	1.65
King Monitor Bell .....	1.65
6" Large Iron Box Bell for Battery Current.....	7.30
8" " " " "	10.50

Small Iron Box Buzzer Non-Adjust. Dble. Magnet .....	\$ .75
Watch Case Buzzer Nickleled. ....	1.10
Midget Buzzer Nickleled. ....	1.85
Wood Box Buzzer. ....	2.15
Flush Buzzer with Flush Plate. ....	3.25

Regular Type		Large Type	
2½" Regular.....	\$ 2.20	6" Regular.....	\$ 6.55
3" ".....	2.30	8" ".....	8.00
4" ".....	2.60	10" ".....	13.10
Standard Cow or Dinner...	3.10	5" Dinner.....	11.25
3" Dinner.....	5.15	6" ".....	13.05
4" ".....	8.65	5" Cow.....	13.75
3" Cow.....	6.75	6" ".....	16.00
	10.10		

Name	No.	Description	Buzzer	2 1/2"	3"
Competition	400-1	Dble. Coil Non-Adjust.	\$ .60	\$ .65	Bell
Eclipse	200-1	" " " "	.90	.95	\$1.05
XXX	211-18	" " Adjust. B	1.00	1.05	1.25
Mario	221-29	" " " A	1.65	1.70	1.85
Eclipse	208	Comb. Bell & Buzzer	1.25	1.25	.....
Competition	402	" " " "	1.25	1.15	.....
Midget	331-34	All Nickeled Bell	1.50	1.85	.....
P. R.	240	Watch Case Buzzer	1.45	.....	.....
P. R.	238	Monitor	1.55	.....	.....

Name	No.	Description	4"	Cow or Sleigh
Competition	400-1	Dbie. Coil Non-Adjust.		
Eclipse	200-1	" " " "	\$1.35	
XXX	211-18	" " Adjustable B.	1.60	\$1.90
Marlo	221-20	" " " A.	2.25	2.65
Eclipse	208	Comb. Bel. & Buzzer		
Competition	402	" " " "		
Midget	331-34	All Nickled Bell.		
P. R.	240	Watch Case Buzzer.		
P.	238	" " " "		

	Buzzer	2½"	3"	4"	Tea
Single Coil Bell No. 31 & 32....	\$ .60	\$.65	\$.80	\$1.50	\$1.35
Two Coil Bell No. 311-321-331.	.55	.60	.75	.95	.....
Combination Bell & Buzzer No. 331.....		.95	.....	.....	.....
Flush Type Buzzer No. 315....	1.20	.....	.....	.....	.....
Door Bell 26A or 26D.....			1.75	.....	.....

**Any Make**

	2½"	3"	4"	5"	6"	8"	10"	12"
Class A....	\$5.75	\$6.10	\$7.25	\$9.40	\$10.00	\$16.00	\$25.00	\$31.00
" B....	5.35	5.60	6.65	7.85	8.95	14.45	21.40	27.60

## BELL PUSH BUTTONS, TREADS, ETC.

### PUSH BUTTONS, ETC.

## Bottom Ansonia

Round Stamped		Price
E-33	1 1/2" Diameter	75
506	1 1/2" Diameter Fixed Back	30
507	With Card Holder	50
513	1 1/2" Diam. Loose Back	95
514	" " " "	45
515	" " " "	55
516	" " Fixed Back	55
527	" " " "	55
529	1 1/2" " 562 Center	75

## ELECTRICAL CONTRACTING



# PL-8

## Brackets

### HOUSE BRACKETS WITHOUT INSULATORS National Elec. Products

Light Type			Heavy Type			Corner Type		
No.	Points	Price Each	No.	Points	Price Each	No.	Points	Price Each
108-10	1	\$.25	109-10	1	\$.40	111-10	1	\$.30
			123-6-7	1	.35			
108-26	2	.60	109-26	2	.80			
108-29	2	.65	109-29	2	.85	111-29	2	.60
108-36	3	.95	109-36	3	1.20	111-36	3	.85

### HOUSE RACKS WITH INSULATORS National Elec. Products

Light Type			Heavy Type		
No.	Points	Length Each	No.	Points	Length Each
104-10	1	5 1/4"	101-24	2	9 1/4"
104-26	2	11 1/4"	101-28	2	13 1/4"
104-33	3	11 1/4"	101-34	3	13 1/4"
104-36	"	18"	101-38	"	21 1/4"
			101-44	4	17 1/4"
104-53	5	18"	101-54	5	21 1/4"
104	Insulator Only	.10	101	Insulator Only	.20

### WIREHOLDER ACCESSORIES National Elec. Products

No. 5000 Corner Chair....	\$.13	No. 5040 Break Arm Strap....	\$.14
No. 5020 Insulator.....	.18	No. 5051 " " " Bolt.....	.20
No. 5021 U Bolts & Nuts..	.10	No. 5052 T Head Screw.....	.03

### SINGLE POINT WIREHOLDERS National Elec. Products

No. 5211.....	\$.25	No. 5311.....	\$.20	No. 5411.....	\$.35	No. 5511.....	\$.24
No. 5214.....	.35	No. 5314.....	.30	No. 5414.....	.40	No. 5513.....	.30
No. 5215.....	.45	No. 5315.....	.35	No. 5415.....	.50	No. 5515.....	.35

### WIREHOLDERS WITH INSULATORS National Elec. Products

For One Wire		For Two Wires		For Three Wires	
No.	Each	No.	Each	No.	Each
No. 5011.....	\$.30	No. 5002.....	\$.60	No. 5003.....	\$.90
No. 5001.....	.25	No. 5012.....	.60	No. 5023.....	.85

### WIREHOLDERS WITH INSULATORS National Elec. Products

Light Type			Heavy Type		
No.	Points	Length Each	No.	Points	Length Each
105-1X	1	6"	106-1	1	6"
105-1	1	6"	106-10	1	6"
105-10	1	4 1/4"	106-26	2	11 1/4"
105-26	2	10 1/4"	106-29	2	14 1/4"
105-29	2	13 1/4"	106-36	3	17 1/4"
105-34	3	13 1/4"	106-36X	3	17 1/4"
105-36	3	16 1/4"			
105	Insulator Only	.18	106	Insulator Only	.20

## B-SUNDRIES, BOLTS, ETC.

### CARRIAGE BOLTS Galvanized

		Length					
3"	3 1/2"	4"	4 1/2"	5"	5 1/2"	6"	
3/4" Diam. Each..	\$.05	\$.05	\$.05	\$.06	\$.07	\$.07	\$.08
1/2" " " "	.08	.09	.09	.10	.10	.11	.12

### MACHINE BOLTS WITHOUT WASHERS Galvanized

		Length					
3"	4"	5"	6"	7"	8"	10"	12"
1/2" Each.....	\$.05	\$.06	\$.07	\$.08	\$.10	\$.12	\$.13
3/4" " " "	.10	.10	.12	.13	.14	.16	.20
1" " " "					.20	.22	.24
1 1/4" " " "					.20	.22	.24
1 1/2" " " "					.30	.32	.34
2" " " "					.30	.32	.34
2 1/2" " " "					.30	.32	.34
3" " " "					.30	.32	.34
3 1/2" " " "					.30	.32	.34

### STOVE BOLTS

#### Round or Flat Head

		Length		Diameter			
Up to 1"	Long Per Dozen	3"	3 1/2"	3/4"	1"	1 1/4"	1 1/2"
1 1/4" to 1 1/2"	" " "	.10	.10	.10	.12	.15	.20
1 1/2" to 2"	" " "	.10	.10	.10	.12	.15	.20
2" to 2 1/2"	" " "	.10	.10	.10	.12	.15	.20
2 1/2" to 3"	" " "	.10	.10	.10	.12	.15	.20
3" to 3 1/2"	" " "	.10	.10	.10	.12	.15	.20
3 1/2" to 4"	" " "	.10	.10	.10	.12	.15	.20

### TOGGLE BOLTS, STEEL

#### "Paine"

		Length		Diameter			
Size—Diameter	Long	Long	3 1/2"	4"	5"	6"	
3/4" Long Price Each.....	\$.10	\$.10	\$.10	\$.10	\$.11	\$.12	\$.13
1" " " "	.10	.10	.10	.10	.11	.12	.13
1 1/4" " " "	.11	.11	.12	.12	.13	.14	.15
1 1/2" " " "	.12	.13	.13	.14	.14	.15	

NOTE: For Brass Toggle Bolts—2 1/2 times above prices.

### FIXTURE BLOCKS Round

1/4" or 3/8" Plain.....	4 & 5" Round	6 & 7" Round
1/2" or 5/8" Slotted.....	\$.25	\$.30
Ceiling Button—P & S Porcelain No. 170—Each.....	.35	.40
Switch Bases—See Snap Switches Page PL-19.		

## CORDS, FIXTURE, LAMP AND HEATER

### SINGLE FIXTURE CORD

Single Lamp Cord		Price Per Foot			
Type	No. 18	No. 16	No. 14	No. 12	
Single Cotton Covered Cord—Light F-64	\$.01				
Single Cotton Covered Cord—Heavy F-32	.01 1/2	.02	.03	.04	
Single Artificial Silk Cord—Heavy.. F-32	.02	.03	.04		

### DOUBLE LAMP CORD

Regular Lamp Cord		Price Per Foot			
Type	No. 18	No. 16	No. 14	No. 12	
Cotton Covered Twisted Pair..... C	\$.02 1/2	\$.04	\$.06	\$.10	
" " Parallel Pair..... PO	.03 1/2	.05	.08		
" " Twisted Parallel Pair.. PD	.04	.05			
Artificial Silk Twisted Pair..... C	.03 1/2	.05	.08		
" " Parallel Pair..... PO	.04	.06	.08		

### REINFORCED CORD

Not Asbestos		Price Per Foot			
Type	No. 18	No. 16	No. 14	No. 12	
Cotton Covered Light Type 1/4" PS	\$.04	\$.06	\$.08		
" " Heavy " 1/2" P	.06	.07	.10	\$.13	
Weatherproof Light Type 1/4" PSWP	.03 1/2	.05 1/2			
" " Heavy Type 1/2" PWP	.04 1/2	.06	.09		

### HEAVY DUTY PORTABLE CORD

#### "Duracord" or Similar. Extra Reinforced

		Price Per Foot			
Type	No. 18	No. 16	No. 14	No. 12	No. 10
PS Light 2 Cond. Port. Cord..	\$.10				
" P Heavy 2 " " " "	.14	.17	.21	.25	.31
" P Heavy 3 " " " "		.18	.26	.33	.41

### ALL RUBBER CORD

#### "Tirex" "Royal" "Super" "Indestructo" or Similar

		Price Per Foot			
Type	No. 18	No. 16	No. 14	No. 12	No. 10
SJ Junior 2 Conductor Black.....	\$.09	\$.11			
" " 2 " Green.....	.10	.13			
" " 3 " Black.....	.13	.16			
S Type Heavy 2 Conductor Black..	\$.13	\$.16	\$.23	\$.29	\$.37
" " 3 " " "	.19	.22	.29	.34	.46
" " 4 " " "	.20	.25	.35	.45	.59
" " Sgle. Cond. Black...	.08	.09	.10	.11	.13

### HEATER CORD

Asbestos Covered		Price Per Foot			
Type	No. 18	No. 17	No. 16	No. 14	No. 12
Stand. Twisted or Wound Asbest. 1/4"	\$.04	\$.05	\$.06	\$.10	\$.12
American Beauty Heater Cord.....		.09	.10	.11	.20
Rockbestos Heater Cord.....	.06	.07	.08	.10	.20

		Price Per Foot			
Type	No. 18	No. 17	No. 16	No. 14	No. 12
"Deltabeston" Heater Cord	\$.10		\$.11	\$.12	\$.18
Type A Asbestos Braid overall.....	.08	.09	.10	.11	.15
" C Cotton Braid overall.....	.08	.09	.10	.11	.16
" D " on ea. cond... ..	.08	.09	.10	.11	.16
" E Cotton on ea Cond. & over both.....	.00	.10	.11	.12	.17

NOTE—For Armored Cords See Page PL-9.  
" Extension Cords See Page PL-10.  
" Fixture Wire See Pages PL-26 & 27.  
" Bell Wire See Page PL-27.

### MISCELLANEOUS CORD

		Price Per Foot			
Description	Type	No. 18	No. 16	No. 14	No. 12
x Brewery Cord.....	CB	\$.04	\$.05	\$.07	
x Canvasite Cord.....	CC	.06	.07	.09	
x Deck Cable.....	PWP	.07	.08	.11	
x Packinghouse Cable.....	PKWP	.07	.08	.10	
x Stage & Theatre Cable..	T	.07	.08	.10	\$.13
x Note—These prices are based on less than coil lot trade prices.					\$.16

### CONDUCTING BELL CORD

#### Spun Silk

		Price Per Foot			
Number of Conductors	2	3	4	5	8
Cond. Cond. Cond. Cond. Cond. Cond.	\$.08	\$.18	\$.20	\$.21	\$.28
Price Per Foot.....					\$.38

Note—For Armored Lamp Cord See Page PL-9.

## ELECTRICAL CONTRACTING





# PL-10

## Cord & Wire Connectors

### SET SCREW CONNECTORS Round Brass

Wire Size	No. 12-14	No. 10	No. 8	No. 6	No. 4
Divided Wall-2 Screws.....	\$ .10	\$ .12	\$ .13	\$ .14	\$ .19
Hole Thru " 4 ".....	.14	.15	.16	.17	.24
Hole Thru " 4 ".....	.14	.16	.18	.20	.25
Wire Size	No. 2	No. 1/0	No. 2/0	No. 3/0	No. 4/0
Divided Wall-2 Screws.....	\$ .20				
Hole Thru " 4 ".....	.28	\$ .35	\$ .42	\$ .70	\$ .95
Hole Thru " 4 ".....	.34	.38	.65	.70	.95

### DOSSERT SOLDERLESS CONNECTORS

Size of Conductor	Up to No. 4	3 to No. 1	No. 0	No. 2/0	No. 3/0	No. 4/0
2 Way S & Elbows.....	\$ .85	\$ .75	\$ .80	\$1.00	\$1.20	\$1.40
Cable Taps.....	1.00	1.10	1.20	1.40	1.75	2.10
3 Way S & Y's.....	1.00	1.10	1.20	1.40	1.75	2.10
Lugs-All Types.....	.50	.60	.60	.70	.90	1.10

### CORD & MOTOR CONNECTORS

Arrow	No.	Complete Price	Body Only Price	Cap Only Price
Midget Comp.	8238	\$ .50		
" Arrolite	8239	.65		
Motor Conn.	RP-8221	.65	8221	RP \$1.10
"	RL-8221	.65	8221	RL .30
"	RA-8222	.55	8222	RA .15
"	RM-8222	.70	8222	RM .25
"	TM-8222	.70	8222	TM .25
"	RH-8224	.90	8224	RH .30
"	RG-8281	.90	8281	RG .30
"	8330 to 33	.80		
"	8334 to 37	.90		
Bryant				
Motor Conn.	KR-130	.60	130	KR .20
"	KG-103	.60	103	KG .20
"	KT-130	.55	130	KT .10
Hubbell				
Cord Connector	5894	.60	5574	5896 .20
"	6116	.55	6118	5964 .15
"	6179	.60	6630	6631 .20
"	6180	.55	6630	6181 .15
"	5518	.60	5574	5420 .20
"	7083	1.30	7084	7056 .50
"	7090	1.80	7091	7092 .80
"	6408	1.25	6409	6149 .45
Weber				
Cord Connector	2274	.60	.74	2200 .20
Wirt				
Cord Connector	.56	.55		

NOTE: For Attachment Plugs and other caps—See Pages PL-16 & PL-17.

## E-SUNDRIES

### EXTENSION CORDS—MADE UP

With Attachment Plug & Socket, but Guards-Lamps & Handles Extra

Length in Feet	With Lamp Cord and Key Socket No. 18	With Reinforced Cord and Key Socket No. 18	With Reinforced Cord and Key Socket No. 16	With Artificial Silk Cord and Twist, or Paral. No. 18	With Artificial Silk Cord and Twist, or Paral. No. 16
4 Foot.....	\$ .95	\$1.05	\$1.10	\$1.00	\$1.10
6 ".....	1.00	1.15	1.20	1.10	1.20
8 ".....	1.05	1.25	1.30	1.20	1.30
10 ".....	1.10	1.35	1.40	1.30	1.40
12 ".....	1.15	1.45	1.50	1.40	1.50
14 ".....	1.20	1.55	1.60	1.50	1.60
16 ".....	1.25	1.65	1.70	1.60	1.70
18 ".....	1.30	1.75	1.80	1.70	1.80
20 ".....	1.35	1.85	1.90	1.80	1.90
22 ".....	1.40	1.95	2.00	1.90	2.00
24 ".....	1.45	2.05	2.10	2.00	2.10
Length in Feet	With All Rubber Cord and Weatherproof Socket	Light No. 18	No. 16	Heavy No. 18	No. 16
4 Foot.....		\$1.25	\$1.40	\$1.45	\$1.55
6 ".....		1.45	1.65	1.75	1.85
8 ".....		1.65	1.90	2.05	2.15
10 ".....		1.85	2.15	2.35	2.45
12 ".....		2.05	2.40	2.65	2.75
14 ".....		2.25	2.65	2.95	3.05
16 ".....		2.45	2.90	3.25	3.35
18 ".....		2.65	3.15	3.55	3.65
20 ".....		2.85	3.40	3.85	3.95
22 ".....		3.05	3.65	4.15	4.25
24 ".....		3.25	3.90	4.45	4.55

### ELBOWS & BENDS For Rigid Conduit

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"
Black.....	\$ .16	\$ .20	\$ .30	\$ .42	\$ .55
Galv.....	.18	.24	.35	.45	.60
Size	2"	2 1/2"	3"	3 1/2"	4"
Black.....	\$ .86	\$1.40	\$3.75	\$8.10	\$ 9.35
Galv.....	1.00	1.70	4.25	9.25	10.65

## EXPANSION SHIELDS & ANCHORS

Ackerman-Johnson-Dryvin-Star-Diamond-Cinch-Packtite or Similar

Size of Hole	These Prices Do Not Include Screws.	Length In Inches	Inside Diameter	Takes Screw No.	Price Each
1/2"	1/2" to 1 1/4"	1 1/2"	1 1/2"	5-6-7	\$ .05
3/8"	1 1/4" to 1 1/2"	1 3/4"	1 3/4"	5-6-7	.06
1/4"	1 1/2" to 1 3/4"	2"	2"	5-6-7	.08
3/16"	1 3/4" to 2"	2 1/4"	2 1/4"	8-9-10-11	.06
1/8"	2" to 2 1/4"	2 1/2"	2 1/2"	8-9-10-11	.06
5/16"	2 1/4" to 2 1/2"	2 3/4"	2 3/4"	8-9-10-11	.08
3/16"	2 1/2" to 2 3/4"	3"	3"	8-9-10-11	.09
1/4"	2 3/4" to 3"	3 1/4"	3 1/4"	8-9-10-11	.11
5/16"	3" to 3 1/4"	3 1/2"	3 1/2"	12-13-14	.06
3/8"	3 1/4" to 3 1/2"	3 3/4"	3 3/4"	12-13-14	.09
1/2"	3 1/2" to 3 3/4"	4"	4"	12-13-14	.11
5/8"	3 3/4" to 4"	4 1/4"	4 1/4"	12-13-14	.13
3/4"	4" to 4 1/4"	4 1/2"	4 1/2"	15 to 18	.08
7/8"	4 1/4" to 4 1/2"	4 3/4"	4 3/4"	15 to 18	.11
1"	4 1/2" to 4 3/4"	5"	5"	15 to 18	.14
1 1/8"	4 3/4" to 5"	5 1/4"	5 1/4"	15 to 18	.11
1 1/4"	5" to 5 1/4"	5 1/2"	5 1/2"	15 to 18	.20

### LAG SCREW ANCHORS (Diamond or Smaller)

Takes Lag Screw	3/8"	1/2"	5/8"	3/4"	1"
Price Without Lag Screw.....	\$ .14	\$ .14	\$ .17	\$ .24	\$ .36
Takes Lag Screw	3/8"	1/2"	5/8"	3/4"	1"
Price Without Lag Screw.....	\$ .42	\$ .62	\$ .90	\$1.05	

## FUSES

### PLUG FUSES

Standard Plug Fuses—Any Size 1/2 each or 5 for \$.25 (Some Manufacturers put these fuses up 4 in a box, in which case they should be retailed at 4 for \$.25.)

### ENCLOSED FUSES, NON-RENEWABLE

Amps.	Non-Indicating Price Each	Indicating Price Each
1 to 30.....	Fuse \$ .10	Fuse \$ .20
35 to 60.....	Fuse \$ .20	Fuse \$ .35
70 to 100.....	Fuse \$ .40	Fuse \$ .65
110 to 200.....	Fuse \$ .60	Fuse \$ .95
225 to 400.....	Fuse \$1.20	Fuse \$1.85
450 to 600.....	Fuse \$2.15	Fuse \$3.35
650 to 800.....	Fuse \$4.10	Fuse \$6.35
	Fuse \$8.95	Fuse \$11.00
	Fuse \$13.85	Fuse \$17.35

### RENEWABLE FUSES

Amps.	Fuses 250 Volts	600 Volts	Links 250 Volts	600 Volts
1 to 30.....	\$ .50	\$1.10	\$ .03	\$ .05
35 to 60.....	1.00	1.25	.05	.06
65 to 100.....	2.00	3.00	.10	.10
110 to 200.....	4.00	5.00	.15	.15
225 to 400.....	7.50	11.00	.30	.30
450 to 600.....	11.00	16.00	.60	.60

### FUSE WIRE

Size in Amps.....	1/4	1/2	1	2		
Price Per Pound.....	\$65.00	\$6.50	\$2.60	\$2.30		
Price Per Foot.....	.01	.01	.01	.01		
Size in Amps.....	3	5	6	10	15	
Price Per Pound.....	\$1.95	\$1.50	\$1.50	\$1.30	\$1.30	
Price Per Foot.....	.01	.01 1/2	.02	.02 1/2	.03	
Size in Amps.....	20	25	30	40	50	
Price Per Pound.....	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	
Price Per Foot.....	.04	.05	.07	.08	.10	
Size in Amps....	60	70	75	80	90	100
Price Per Pound....	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00
Price Per Foot.....	.15	.20	.21	.22	.24	.25
Fuse Strip Any Amperage....\$1.00 per lb.						

Fuse Strip Any Amperage....\$1.00 per lb.

### OPEN LINK FUSES

Size in Amps.....	Small Wire Type 1 to 30 Amps.	35 to 60 Amps.	65 to 100 Amps.
Numbers.....	00-0-1-2-3	2-3-5	5
Price Each.....	\$ .12	\$ .16	\$ .22
Size in Amps.....	Large Strip Type 25-100	110-200	225-400
Numbers.....	7	7 to 16	10 to 16
Price Each.....	\$ .22	\$ .30	\$ .60
Size in Amps.....	425-600	600-800	800-1500
Numbers.....	10 to 16	28	40
Price Each.....	\$1.10	\$1.80	\$6.80

### STAMPED SHEET METAL LINK FUSES

Type of Link.....	B 1 1/2"	C 2 1/4"	D 2 3/4"	E-F-H-I-L-M See Catalog
Price Each.....	\$ .12	\$ .12	\$ .18	\$ .35

ELECTRICAL CONTRACTING



## FITTINGS, CONDUIT, THREADED

## STANDARD TYPES, COVERS EXTRA

"Condulets" "Taplets" "Unilets" "V. V." "Electrolets"  
"Powerlets" "Adaptilets" Etc.

Type	1/4"	3/4"	1"	1 1/4"	1 1/2"
A 1- Piece	\$ .33	\$ .44	\$ .60	\$ .87	\$ 1.12
B 2- "	.40	.50	.70	1.12	1.47
BE "	.85	1.05	1.55	2.35	3.15
C 1- "	.50	.67	.83	1.32	1.71
CO "	.70	.81	1.05	1.75	2.25
D "	.48	.58	.80	1.32	1.71
E "	.40	.50	.70	1.12	1.46
F 2- "					
LB-LF-LL-LR	(See Page PL-13)				
LBB-LFB-LLB-LRB	For Special Form 6 Fittings See Page PL-13.				
LBL-LBR-LU-LUA	.56	.63	.81	1.47	1.96
T All One Size	.81	1.12	1.33	1.75	2.50
TA All One Size	.67	.80	1.12	1.71	2.57
TB-TL-TR	.98	1.05	1.40	2.18	3.22
U-UB-UF	.68	.81	1.12	1.71	2.58
X All One Size	.68	.79	1.10	1.76	2.55
Gaskets	.84	1.09	1.47	1.96	2.50
Reducers	.14	.14	.21	.28	.28
Unions	.21	.21	.28	.42	.56
	.63	.70	1.05	1.48	2.52

Type	3"	2 1/2"	3"	3 1/2"	4"
A 1-Piece	\$2.32	\$5.46	\$ 6.50	\$10.60	\$11.70
B 2- "	3.00	5.46	6.50	10.60	11.70
BE "	3.65	5.46	7.30	9.10	16.65
C 1- "	5.45	10.60	11.70	19.90	22.10
CO "	3.40	6.24	8.10	11.70	14.80
D "	4.46	6.75	10.27	16.35	17.95
E "	3.40	6.24	8.10	11.70	14.80
F 2- "	3.00	5.46	6.50	10.60	11.70
LB-LF-LL-LR					
LBB-LFB-LLB-LRB	For Special Form 6 Fittings See Page PL-13.				
LBL-LBR-LU-LUA	3.50	6.50	8.45	13.65	15.60
T All One Size	3.72	8.52			
TA All One Size	3.58	6.50	9.75	14.30	16.90
TB-TL-TR	5.53				
U-UB-UF	3.58	6.50	9.75	14.30	16.90
X All One Size	4.20	7.50	10.15	15.85	18.75
	4.90	7.80	13.00	16.90	20.80
Gaskets	.35	.52	.52	.65	.65
Reducers	.70	1.30	1.76	2.60	3.58
Unions	3.78	6.18	10.40		

NOTE: For Special Prices on Types F&amp;LB Entrance Fittings See Page PL-13.

COVERS  
For Above

	1/4"	3/4"	1"	1 1/4"	1 1/2"
Sheet Steel Blank Met. Cover	\$ .11	\$ .15	\$ .33	\$ .45	
Cast-Iron	.21	.31	.59	.70	
Porcelain with Holes	.14	.22	.35	.51	
Metal with 1/4 Nipple	.28	.35	.59	.65	
" " " " " "	.33	.40	.64	.70	
Porcelain with 1/4 Nipple	.35	.42	.66	.73	
" " " " " "	.42	.49	.67	.88	
" " " " " "	.49	.57	.74	.95	
Porcelain for Drop Cord	.49	.56	.70		
Porcelain Weatherproof Sockets	.22	.35	.56		
Composition with Holes	.28	.42	.70	1.40	
Composition Split with Holes	.56	.84	1.40	2.80	
	1 1/4"	3"	3 1/2"	3 1/2"	4"
Sheet Steel Blank Met. Cover	\$ .63	\$ .70	\$ 1.05	\$ 1.12	
Cast Iron	.98	1.26	1.61	1.75	
Porcelain with Holes	.67	.84	1.12	1.26	
Metal with 1/4 Nipple	.82				
" " " " " "	.86				
Porcelain with 1/4 Nipple	1.01				
" " " " " "	1.08				
" " " " " "	1.16				
Porcelain for Drop Cord					
Porcelain Weatherproof Sockets					
Composition with Holes	1.55	1.68			
Composition Split with Holes	3.10	3.36			

RECEPTACLES & ROSETTES  
For Above

(For Description See Crouse Hinds' Catalog)	1/4"	3/4"	1"
Lamp Receptacle without Shade Holder Groove	\$ .35	\$ .42	\$ .50
" " " " " " with Shade Holder Groove	.42	.50	.56
Fixture Rosette with 1/4 or 3/4 Nipple—Male or Female	.56	.63	.70
Cord Rosette with One Outlet	.42	.50	.56
" " " " " " Two Outlets	.56	.63	.70
Polarity Plug Receptacle for Hubbell 6 Amp.	.77	.85	.91
Attachment Plug Receptacle for Hubbell 6 Amp.	.56	.63	.70

FS SERIES FOR FLUSH DEVICES  
Shallow Type Without Covers, Any Make

No. Gangs	No. Pipe Outlets	Series	1/4"	3/4"	1"
Single Gang	One	FS-FSA	\$ .91	\$ 1.08	\$ 1.10
" " " "	Two	FSC-FSL-FSR-FSLA-FSS-FSAA	1.05	1.26	1.54
" " " "	Three	FSCA-FSCC-FSCT-FST	1.40	1.75	2.03
" " " "	Four	FSX-FSCD	1.68	2.10	2.38
Two Gang	One	FS-FSA	1.68	1.82	1.96
" " " "	Two	FSC	1.82	1.96	2.17
" " " "	Three	FSD	2.03	2.17	2.31

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## FS SERIES FOR FLUSH DEVICES—Continued

No. Gangs	No. Pipe Outlets	Series	1/4"	3/4"	1"
2 Gang Tandem	One	FS	2.31	2.45	2.59
" " " "	Two	FSC	2.45	2.59	2.73
Three Gang	One	FS-FSA		2.52	2.73
" " " "	Two	FSC		2.66	2.87
" " " "	Four	FSD	2.73	3.01	3.32
Four Gang	One	FS-FSA		3.08	3.36
" " " "	Two	FSC-FSSE		3.29	3.50
" " " "	Five	FSD	3.44	4.00	4.34

## COVERS FOR FS FITTINGS

Description	Single Gang	2 Gang
Metal Cover for Std. Flush Push Switches	\$ .31	\$ .42
" " " " Tumbler or Toggle Switches	.31	.42
" " " " Rotary Switches	.31	.42
Metal Cover for Single Flush Receptacle	.31	.42
" " " " Duplex Flush Receptacle	.42	.84
" " " " with Lift Cover	.84	1.68
" " " " for Disapp. Door Receptacle	1.12	2.24
" " " " with 1/4 Metal Nipple	.40	
" " " " " " " "	.54	
" " " " " " " "	.56	
Blank Metal Cover Sheet Steel	.14	.28
" " " " Cast-Iron	.35	.70
Porcelain Cover with Holes	.28	
Cast Cover with Guard for Push Switches	.49	.81
Description	3 Gang	4 Gang
Metal Cover for Std. Flush Push Switches	\$ .63	\$ .84
" " " " Tumbler or Toggle Switches	.63	.84
" " " " Rotary Switches	.63	.84
" " " " Single Flush Receptacle	.63	.84
" " " " Duplex Flush Receptacle		
" " " " with Lift Cover	2.52	3.36
" " " " for Disapp. Door Receptacle		
" " " " with 1/4 Metal Nipple		
" " " " " " " "		
Blank Metal Cover Sheet Steel	.56	.84
" " " " Cast-Iron	1.05	1.40
Porcelain Cover with Holes		
Cast Cover with Guard for Push Switches	1.40	1.96

## METAL COMBINATION PLATES FOR FS SERIES

2 Gang for One Switch and one Sgle. or Duplex Receptacle	\$ .70
2 " " " " Bull's Eye with Ruby Glass	1.75
3 " " " " One Receptacle & one Bull's Eye	1.96

NOTE: Although our prices on conduit fittings apply to all makes we use Crouse Hinds' numbers and lists for convenience.

## G &amp; H WITHOUT ADJUSTABLE BAR

Type	5 Amp.	10 Amp.	1"
Crouse Hinds or Similar	1/4"	3/4"	1"
G	\$ .66	\$ .70	\$ 1.05
GL	.63	.77	1.12
GA-GLA-GT	.84	.98	1.33
GTA-GX	1.05	1.19	1.68
H	.42	.56	.91
HA	.49	.63	.98
HH	.56	.70	1.05
HHC	.84	.98	1.33
HLA	.63	.77	1.12
	3/4"	20 Amp.	1"
G	\$ .90	\$ 1.05	\$ 1.40
GL	1.05	1.19	1.61
GA-GLA-GT	1.26	1.40	1.82
GTA-GX	1.50	1.68	2.24
H	.84	.91	1.26
HA	.91	.98	1.40
HH	.98	1.05	1.40
HHC	1.26	1.40	1.82
HLA	1.05	1.19	1.61

## G &amp; H WITH ADJUSTABLE BAR

Type	5 Amp.	10 Amp.	1"
Crouse Hinds or Similar	1/4"	3/4"	1"
G	\$ .77	\$ .91	\$ 1.26
GL	.84	.98	1.33
GA-GLA-GT	1.05	1.19	1.54
GTA-GX	1.26	1.40	1.89
H	.63	.77	1.12
HA	.70	.84	1.19
HH	.77	.91	1.26
HHC	1.05	1.19	1.54
HLA	.84	.98	1.36
	3/4"	20 Amp.	1"
G	\$ 1.26	\$ 1.33	\$ 1.68
GL	1.33	1.40	1.89
GA-GLA-GT	1.54	1.68	2.10
GTA-GX	1.75	1.96	2.52
H	1.12	1.19	1.54
HA	1.19	1.26	1.68
HH	1.26	1.33	1.68
HHC	1.54	1.68	2.10
HLA	1.33	1.50	1.89



# BETTER TIME SWITCHES

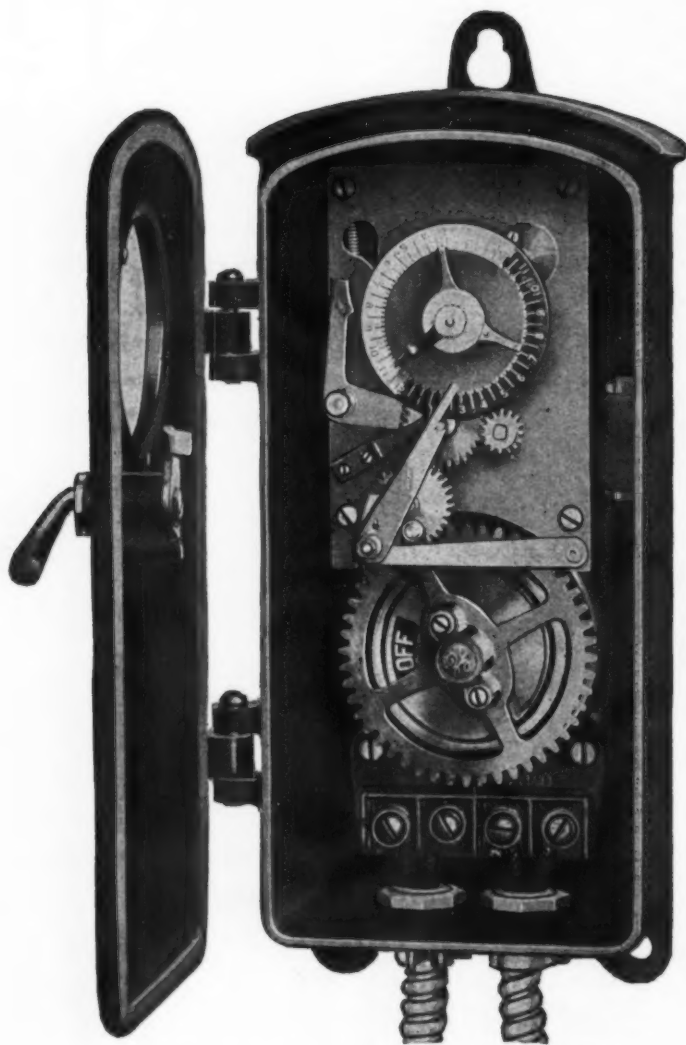
## —motor-operated

Here is shown one of the General Electric time switches together with its unique time-keeping element, a little synchronous motor. It is the motor-operated feature that gives G-E time switches their unquestioned superiority. Besides, they are exceptionally well built.

G-E time switches require no winding, as they have no clock movement. The little motor runs in step with the power supply, which assures high accuracy and reliable switching.

If you have had experience with faulty or inaccurate time-switch operation, take advantage of these improvements. Specify G-E motor-operated switches for future work.

Available through G-E distributors. A postal card or letter to your G-E distributor or the nearest G-E office will bring full information.



The G-E 20-amp. time switch, type T-9  
A 10-amp. G-E time switch, type T-8, is also manufactured. Both are for use only on a-c. circuits of regulated frequency.



The time-keeping element,  
a synchronous motor

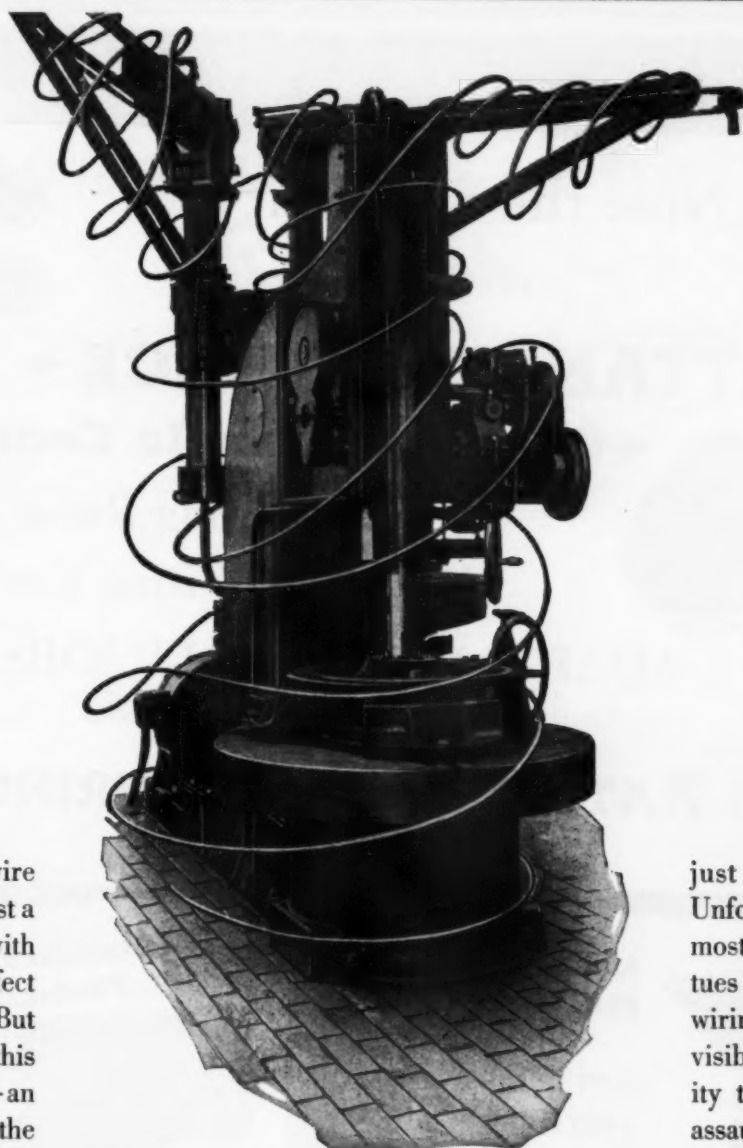


The reliability of a motor-operated timing mechanism is shown by the success of the Telechron, a widely used electric time keeper. Central station companies establish important billing rates on the basis of demand measured by G-E meters that are synchronous-motor operated—the same as these G-E time switches.

# GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

621-4



Just a bit of wire will do it. Just a bit of wire with a single defect anywhere... But

there's a larger aspect to this business of breakdown—an aspect which concerns the electrical contractor just as much as it concerns the man whose machinery and men are forced into idleness by defective wire, a defective switch or defective conduit.

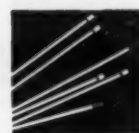
Wide-awake contractors recognize their responsibility in preventing such occurrences. They also recognize their opportunity to serve their customers and to identify themselves with standards of unquestioned calibre. And here the contractor finds an ally.



It has been Graybar's experience that wire isn't just wire, that conduit isn't

just conduit.

Unfortunately, most of the virtues of a given wiring supply item are not visible on the surface. Ability to stand up under the assault and battery of daily service is built into the inside—not onto the outside.



But the ability of Graybar wiring supplies to measure up to a job is no secret, hard-to-get-at, quantity. All over America, that ability is a matter of public record. Some of the biggest construction

jobs bear witness. Switches, outlet boxes, conduit, fuses—all kinds of wiring supplies from Graybar—are upholding a reputation for quality that goes back to the early days of the electrical industry. May we tell you more about these quality wiring supplies?



## The Tie-Up —and why it had better not happen

# GraybaR

Successor to *Western Electric* Supply Dept.

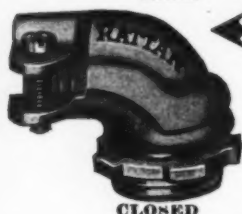
Offices in 72 Principal Cities  
Executive Offices: Graybar Building  
Lexington Ave. and 43rd St., New York



THE GRAYBAR TAG—  
SYMBOL OF  
DISTRIBUTION

Note the Simplicity  
of the

TRADE  
**RATTAN TWO PIECE** →  
MARK



CLOSED

← **One Screw Angle Connector**

More Wiring Room  
With Less Wiring Costs

**ADAPTABLE FOR ALL JOBS**

*Send for your sample and be convinced*

**THE RATTAN MANUFACTURING CO.**

New Haven, Conn.



OPEN



**ADDITIONAL  
PROTECTION**  
with  
**RITTENHOUSE  
TYPE H and HP  
Transformers**

These types are of  
25 Watt Capacity  
with 110 volt primary and 8 volt secondary.  
The transformer and porcelain cutout are  
mounted in a small metal box of standard  
gauge.

This arrangement makes possible the fusing  
of the transformer, definitely safeguarding  
the user against accident. Type H furnished  
with double pole cutout. Type HP furnished  
with single pole cutout.

**A. E. RITTENHOUSE CO.**  
HONEYE FALLS, N. Y.

**Trade Standards in  
Protective Conduits**



**CLIFTON RIGID**  
Black, Galvanized and  
Red Finishes



**CLIFDUCT**  
a double-wall  
non-metallic

**CLIFTUBE**  
a single-wall  
non-metallic

General Sales Agents

**HATHEWAY & COMPANY INC**

225 Varick Street, New York City

A general sales organization—Representing nationally:

☐ The Rattan Manufacturing Co.

☐ Clifton Conduit Co.

☐ A. E. Rittenhouse Co.

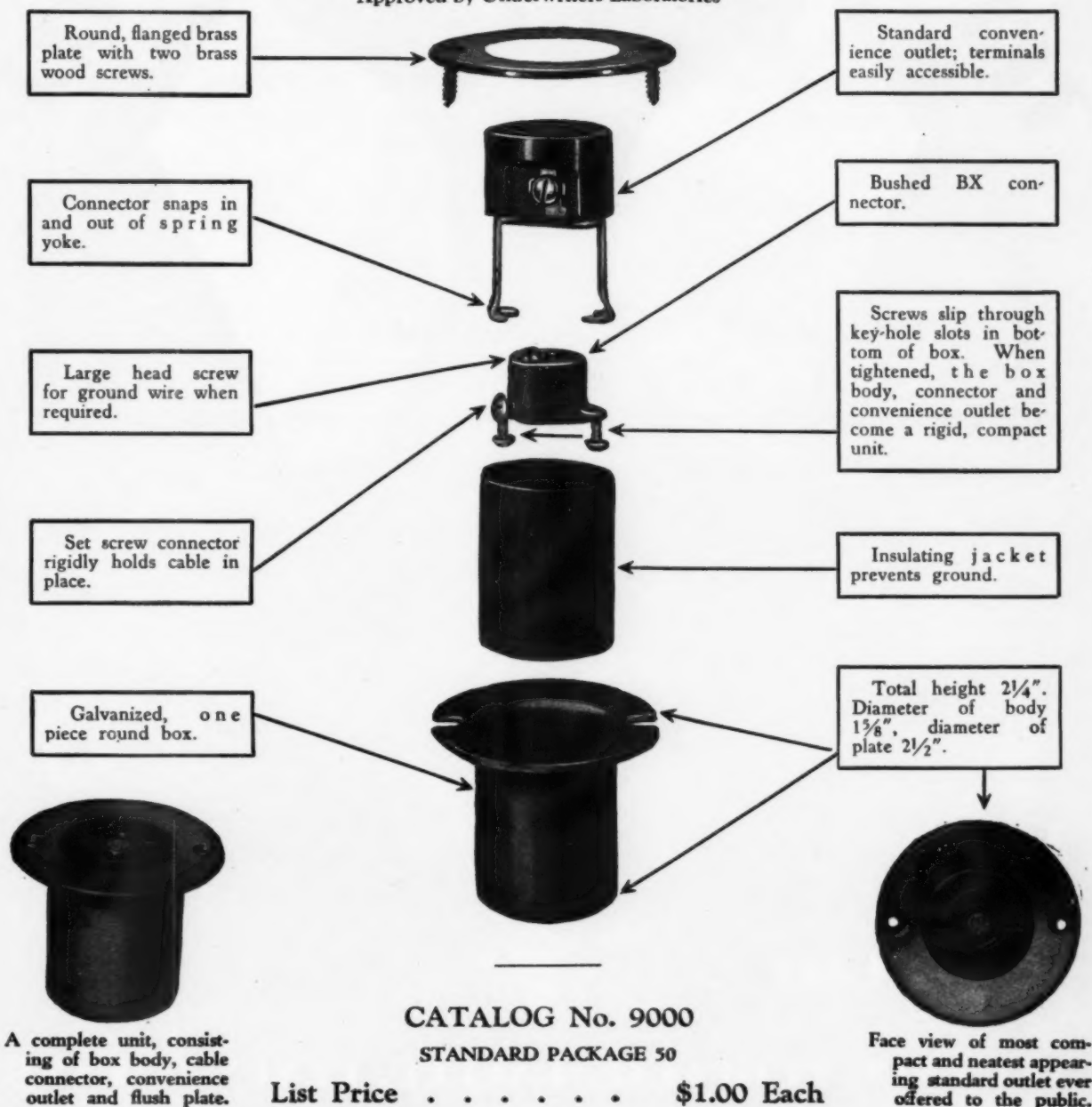
Gentlemen,

Please send Name.....  
complete infor- Street.....  
mation on com- panies checked. City..... State.....



# Announcing -- The New **RATTAN** General Utility Outlet

10 Amperes, 250 Volts; 15 Amperes, 125 Volts  
Approved by Underwriters Laboratories



CATALOG No. 9000

STANDARD PACKAGE 50

List Price . . . . . \$1.00 Each

*The Cheapest and Most Practical Box on the Market*

**THE RATTAN MANUFACTURING CO.**

NEW HAVEN,  
CONNECTICUT

HATHEWAY & COMPANY, General Sales Agents  
225 Varick Street, New York, N. Y.



**FOR  
THE  
HOME**

**THE ONLY, COMPLETE, PACKED, READY TO HANG  
UNIT ON THE MARKET  
DESIGNED IN THE MODERN  
STYLE**

**CONSOLIDATED**

LIGHTING GLASSWARE DIVISION  
**LAMP & GLASS COMPANY, CORAOPOLIS, PA.**

# NOW is the time to sell Electric Ventilation

When the thermometer goes up, sales of American Blower equipment go up!

Now is the time to start selling Electric Ventilation.

And here's the book that tells you where and how!

Selling American Blower Products forms a profitable part of the business of thousands of electrical dealers, sheet metal

contractors, heating and ventilating dealers and engineers—and we aid them in every way possible. Mail the coupon today.

The American Blower Sales and Merchandising Plan Book shown below contains complete sales, advertising



and merchandising plans for you. They are simple, practical and effective. They are all ready to go to work for you *free* of charge.

#### COUPON

AMERICAN BLOWER CORPORATION  
6000 Russell Street, Detroit

Please send me your sales book

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_

AMERICAN BLOWER CORPORATION, DETROIT, MICH.  
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONT.  
BRANCH OFFICES IN ALL PRINCIPAL CITIES

(580)

**American Blower**  
VENTILATING, HEATING, AIR CONDITIONING, DRYING, MECHANICAL DRAFT  
MANUFACTURERS OF ALL TYPES OF AIR HANDLING EQUIPMENT SINCE 1891.



### Fittings, Conduit

	Without Adjustable Bar			With Adjustable Bar		
	5 Amp.	10 Amp.	20 Amp.	5 Amp.	10 Amp.	20 Amp.
.....	\$.28	\$.35	\$.56	\$.21	\$.21	\$.49
Nip.....	.21	.28	.35	.14	.14	.35
".....	.42	.49	.70	.35	.35	.68
".....	.56	.63	.77	.42	.42	.70
".....	.56	.63	.71	.49	.49	.84
".....	.35	.42	.49	.28	.28	.42
".....	.42	.49	.56	.35	.35	.49
".....	.49	.56	.63	.42	.42	.56

	Price
	Each
Lamp Receptacle with Shade Holder Groove No. H546.....	\$ .70
Fixture Rosette Porcelain with $\frac{3}{8}$ " Nipple No. H549 & H548.....	.77
$\frac{1}{2}$ "     No. H551 & H552.....	.91
Fixture Rosette Composition with $\frac{3}{8}$ " Nipple No. H571 & H572.....	1.00
Cord Rosette Porcelain H553.....	.60
"        "        Composition H554.....	.70
Lamp Receptacle—One Piece—No. H556 or 557.....	.38

	3/8"	1/2"	1"
J-A-JB-JU.....	\$ .84	\$1.05	\$1.60
L.....	.88	1.19	1.61
L.....	1.19	1.23	1.80
T.....	1.33	1.50	1.61
X.....	1.50	1.61	1.82
K.....	.70	.91	1.33
KA-KB-KC-KD.....	.84	1.05	1.60

Lamp Receptacle S. H. Groove.....	\$ .63
No S. H. Groove.....	.56
Fixture Rosette with Nipple.....	.56
Plug Receptacle 6 Amp.....	.70
20.....	.91
Cord Rosette.....	.49
Blank Cast Cover.....	.42

Prices are for Iron Fittings and include Guard and Globe		Form 75
V-VA Complete as Above.....	\$5.85	\$5.92
VB-VC-VL Complete as Above.....	5.98	6.11
VCA-VLA-VT-VE-VS Complete as Above...	6.17	6.30
VTA-VX Complete as Above.....	6.30	6.56
VXA Complete as Above.....	6.57	6.83
VF-VK-VP Complete as Above.....	6.37	6.50
VD-VJ Complete as Above.....	6.70	6.83
Prices are for Iron Fittings and include Guard and Globe		Form 200
V-VA Complete as Above.....	\$7.02	\$7.09
VB-VC-VL Complete as Above.....	7.15	7.28
VCA-VLA-VT-VE-VS Complete as Above...	7.28	7.50
VTA-VX Complete as Above.....	7.41	7.67
VXA Complete as Above.....	7.67	7.93
VF-VK-VP Complete as Above.....	7.48	7.60
VD-VJ Complete as Above.....	7.67	7.80

	Form 75	Form 200
Guard with Half Metal Shade. ....	\$3.90	\$4.20
"    " Gauge Metal Shade. ....	6.50	7.80
"    " without Shade. ....	2.34	2.95
Globes only, clear. ....	1.12	1.12
"    " opal. ....	1.54	2.38
"    " green-blue & orange. ....	2.38	3.30
"    " ruby. ....	3.30	4.06
Brass Reflector Holder Galv. Finish. ....	1.95	3.31
Threaded Blank Covers Iron Black Finish. ....	1.05	1.40
Sealing Plate Iron Galv. Finish. ....	.21	.35
Recentacle with Gasket & Screws. ....	.56	.56

	Form 75		Form 200	
	Iron	Brass	Iron	Brass
Pendant or Bracket Type Complete...	\$7.93	\$11.18	\$8.80	\$12.42
Receptacle Only.....				.56

## FITTINGS, THREADLESS

Types Without Covers	3/4"	3/8"	1"	1 1/4"
A.....	\$ .46	\$.62	\$.84	\$1.26
B.....	.53	.70	.95	1.47
BE.....	.95	1.23	1.79	2.74
C.....	.74	.94	1.33	2.03
CB.....	1.04	1.34	1.86	2.80
D.....	.74	.94	1.29	2.03
E.....	.53	.67	.94	1.48
LB-LF-LL-LR.....	.81	.98	1.40	2.17
SE.....	.81	1.09	1.71	2.66
T-TL-TR.....	1.04	1.34	1.85	2.80
TB.....	1.47	1.82	2.38	3.64
U & UB.....	.91	1.12	1.64	2.52
X.....	1.33	1.82	2.45	3.43
XB.....	2.03	2.52	3.29	.....

Types Without Covers	1½"	2"	2½"	3"
A.....	\$1.61	\$3.15	\$ 6.65	\$ 8.10
B.....	1.96	3.85	6.65	8.10
BE.....	3.64	6.30	11.70	13.30
C.....	2.66	5.11	8.55	11.15
CB.....	3.85	6.16	9.90	14.30
D.....	2.66	5.11	8.55	11.15
E.....	1.96	3.85	6.65	8.00
LB-LF-LL-LR.....	2.94	5.18	8.80	11.50
SE.....	3.99	7.00	11.85	14.85
T-TL-TR.....	3.85	6.16	9.90	14.40
TB.....	5.18	9.00	.....	.....
U & UB.....	3.29	6.00	10.10	13.20
X.....	4.48	8.33	12.35	19.15
XB.....	.....	.....	.....	.....

	1/4"	3/4"	1"	1 1/4"
H Couplings .....	\$ .32	\$ .48	\$ .83	\$1.11
KO Box Connector .....	.20	.29	.67	1.34
NO .....	.24	.31	.56	.84
SCA Cable Connector .....	.24	.37	.83	1.00
SLP Short Elbow .....	.39	.52	.98	1.54
KOL Box Connector .....	.43	.57		
KOR Reducer .....	.58	.63		
	1 1/4"	2"	2 1/2"	3"
H Couplings .....	\$1.54	\$3.21	\$4.00	\$6.37
KO Box Connector .....				
NO .....	1.18	2.49	3.28	4.30
SCA Cable Connector .....				
SLP Short Elbow .....	1.23	2.66		
KOL Box Connector .....	2.07	4.20		
KOR Reducer .....				

	1 1/2"	1 3/4"	1"	1 1/2"
Blank Metal.....	\$ .11	\$ .15	\$ .32	\$ .45
Rubber Gasket.....	.14	.14	.21	.28
Metal, 1/8 Nip.....	.28	.35	.49	.64
" 1/4 ".....	.32	.39	.53	.69
" 3/8 ".....	.35	.42	.56	.71
" 1/2 ".....	.42	.49	.63	.78
Porcelain with Holes.....	.14	.21	.35	.50
Metal, Cord Grip.....	.28	.35	.49	....
	1 1/2"	2"	2 1/2"	3"
Blank Metal.....	\$ .63	\$ .78	\$1.05	\$1.05
Rubber Gasket.....	.28	.56	.84	.84
Metal, 1/8 Nip.....	.81	....	....	....
" 1/4 ".....	.85	....	....	....
" 3/8 ".....	.88	....	....	....
" 1/2 ".....	.95	....	....	....
Porcelain with Holes.....	.67	.84	1.12	1.12
Metal, Cord Grip.....	....	....	....	....

Lamp Recept. without Shade Holder Groove PR....	16"	36"	1"
" " with Shade Holder Groove PRS.....	\$.35	\$.42	\$.49
Porcelain for Weatherproof Socket WP2.....	.42	.49	.56
Polarity Plug Receptacle 10 Amp. P.....	.28	....	....
" " Duplex PD.....	.56	.63	.70
	....	.70	.78
	Sgle. Pole	Dble. Pole	3 Pole
Snap Switch 5 Amp. 125 Volt Non Indicating....	\$ .70	....	\$1.26
" " 5 " 125 " Indicating.....	.77	....	....
" " 10 " 125 " Non-Indicating.....	1.12	\$1.47	1.47
" " 10 " 125 " Indicating.....	1.26	1.68	....

Type	1 Gang			2 Gang		
	$\frac{1}{4}$ "	$\frac{3}{4}$ "	1"	$\frac{1}{4}$ "	$\frac{3}{4}$ "	1"
FSE-FSB.....	\$1.05	\$1.26	\$1.40	\$1.82	\$2.03	\$2.24
FSE-L & R.....	1.33	1.51	2.03	2.10	2.31	2.66
FST.....	1.75	2.31	2.73	.....	.....	.....
FSU.....	1.26	1.61	2.03	.....	.....	.....
FSD.....	1.75	2.31	2.73	2.38	2.73	3.05

Type	3 Gang			4 Gang		
	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"	$\frac{1}{2}$ "	$\frac{3}{4}$ "	1"
FSE-FSB.....	.....	\$2.76	\$2.97	.....	\$3.36	\$3.64
FSC-L & R.....	.....	3.08	3.36	.....	3.71	3.99
FST.....	.....	.....	.....	.....	.....	.....
FSU.....	.....	.....	.....	.....	.....	.....
FSD.....	\$3.22	3.57	3.85	\$4.97	.....	.....

	One Gang	2 Gang
Blank Metal Plate.....	\$ .37	\$ .70
Receptacle Plate.....	.28	.38
Toggle or Push Button Switch Plate.....	.38	.....

Type	5 Amp.		10 Amp.		
	$\frac{1}{2}''$	$\frac{3}{4}''$	$\frac{1}{2}''$	$\frac{3}{4}''$	1"
OA.....	\$ .63	\$ .64	\$ .77	\$1.05	\$1.33
OC.....	.77	1.05	.91	1.26	1.68
OCB.....	1.19	1.54	1.33	1.75	2.24
OE.....	.55	.77	.70	.98	1.26
OEB.....	.91	1.12	1.05	1.33	1.75
OL.....	.91	1.12	1.05	1.33	1.75
OLB.....	1.19	1.54	1.33	1.75	2.24
OT.....	1.19	1.54	1.33	1.75	2.24
OTB.....	1.54	1.96	1.68	2.10	2.80
OU.....	.77	1.05	.91	1.26	1.68
OUE.....	1.19	1.54	1.33	1.75	2.24
OX.....	1.54	1.96	1.68	2.10	2.80
AXB.....	1.89	2.31	2.03	2.52	3.26

## 60





### Fittings, Entrance

	1½"	3¼"	1"	1½"
Ent. Cap 1525-32 with Cover.....	\$ .40	\$ .45	\$ .65	\$1.00
Capped Elbow 1470-84 with Cover.....	.50	.60	.70	1.95
Insulets 1610-11-12 with Cover.....	.15	.20	.25	.....
Angle Insulets 1640-1-2 with Cover.....	.30	.45	.60	.....
Cable Insulets 2000 with Cover.....	.15	.....	.....	.....
	1½"	2"	2½"	3"
Ent. Cap 1525-32 with Cover.....	\$1.70	\$2.95	\$6.25	\$7.65
Capped Elbow 1470-84 with Cover.....	2.30	.....	.....	.....
Insulets 1610-11-12 with Cover.....	.....	.....	.....	.....
Angle Insulets 1640-1-2 with Cover.....	.....	.....	.....	.....
Cable Insulets 2000 with Cover.....	.....	.....	.....	.....

### ROUND "ADAPTI" BOXES

Series Numbers	Style	1½"	3½"	1"
No. 02900 . . . . .	1 Back Outlet	\$ .40		
No. 2900-1-2-3 . . . . .	" "	.36	.48	\$ .60
No. 3000 to 3005 . . . . .	1 Side Outlet	.43	.50	.74
No. 3100 to 3105 . . . . .	" "	.40	.48	.60
No. 3100T & 3101T Thrdls. . . . .	" "	.48	.55	..
No. 3170 to 3175 . . . . .	" "	.47	.54	.67
No. 3200 to 3205 . . . . .	2 " "	.48	.54	.74
No. 3200T & 3201T Thrdls. . . . .	" "	.60	.68	..
No. 3270 to 3275 . . . . .	" "	.60	.67	.94
No. 32170 to 32175 . . . . .	" "	.54	.60	1.00
No. 3300 to 3305 . . . . .	3 " "	.64	.88	.98
No. 3300T to 3305T Thrdls. . . . .	" "	.82	.95	..
No. 33170 to 33175 . . . . .	" "	.71	.83	1.07
No. 3400 to 3405 . . . . .	4 " "	.80	1.05	1.20
No. 3500 to 3705 . . . . .	2 " "	.54	.60	.75
No. 3800 to 3805 . . . . .	" "	.54	.60	.80
No. 3900 to 4105 . . . . .	3 " "	.80	.93	1.08
No. 4800 to 5005 . . . . .	4 " "	.94	1.03	1.34

Series Numbers	Style	1¾"	1½"	2"
No. 02900 . . . . .	1 Back Outlet			
No. 2900-1-2-3 . . . . .	" "	\$1.10		
No. 3000 to 3005 . . . . .	1 Side Outlet	1.30	\$2.00	\$2.75
No. 3100 to 3105 . . . . .	" "	1.10	1.80	2.40
No. 3100T & 3101T Thrdls. . . . .	" "	1.15	1.85	2.45
No. 3170 to 3175 . . . . .	" "	1.25	2.13	2.75
No. 3200 & 3205 . . . . .	2 " "	1.25	2.13	2.75
No. 3200T & 3201T Thrdls. . . . .	" "	1.40	2.28	2.88
No. 3270 to 3275 . . . . .	" "	1.34	2.20	2.80
No. 32170 to 32175 . . . . .	" "	1.34	2.20	2.80
No. 3300 to 3305 . . . . .	3 " "	1.96	2.68	3.00
No. 3300T to 3305T Thrdls. . . . .	" "	1.70	2.75	3.10
No. 33170 to 33175 . . . . .	" "	1.87	2.90	3.35
No. 3400 to 3405 . . . . .	4 " "	1.40	2.28	3.35
No. 3500 to 3705 . . . . .	2 " "	1.40	2.28	3.35
No. 3800 to 3805 . . . . .	" "	1.40	2.28	3.35
No. 3900 to 4105 . . . . .	3 " "	1.85	2.90	4.00
No. 4800 to 5005 . . . . .	4 " "	1.95	3.55	4.70

Series No.	Description	1½"	1½"	1"
500-501-502	Base Only	\$ .27	\$ .27	\$ .54
500X-501X	Extension Ring	.27	.27	.40
501A	Base Concealed to Expd.	.67	.67	.67
0500	" with Tapped Boss	.34	.34	....
510 to 512	Base	.40	.40	.80
520 to 522	"	.27	.27	.52
530	"	1.80	1.80	....
540 to 542	"	.27	.27	.52
30 to 35	Metal Side Plates	.14	.14	.20
40 to 42	Insulated Side Plates	.16	.16	.34
50 to 54	Armd. Flex. Side Plates	.34	.43	.52
60 to 65	Angle Outlet	.15	.24	.43
70 to 75	Elbow Outlet	.24	.30	.50
90 to 93	Connecting Outlet	.28	....	.25
100 & 101	Straight for No. 500 Base	.15	.24	....
110 to 113	" " No. 501 "	.28	.34	.43
120 to 125	" " No. 502 "	.47	.53	.67
130 to 135	" " No. 503 "	1.08	1.33	1.60
140 to 145	" " No. 504 "	2.67	3.08	3.48
300 & 301	Threadless Outlet	.20	.28	....
310 & 311	"	.34	.40	....
Series No.	Description	1½"	1½"	2"
500-501-502	Base Only	\$ .54	\$1.08	\$1.08
500X-501X	Extension Ring	.40	....	....
501A	Base Concealed to Expd.	.67	....	....
0500	" with Tapped Boss	....	....	....
510 to 512	Base	.80	1.60	1.60
520 to 522	"	.52	1.08	1.08
530	"	....	....	....
540 to 542	"	.52	1.08	1.08
30 to 35	Metal Side Plates	.20	.38	.38
40 to 42	Insulated Side Plates	.34	.67	.67
50 to 54	Armd. Flex. Side Plates	.67	....	....
60 to 65	Angle Outlet	.48	.94	1.08
70 to 75	Elbow Outlet	.55	1.00	1.14
90 to 93	Connecting Outlet	....	.30	.47
100 & 101	Straight for No. 500 Base	....	....	....
110 to 113	" " No. 501 "	.48	....	....
120 to 125	" " No. 502 "	.80	.94	1.07
130 to 135	" " No. 503 "	1.88	2.14	2.40
140 to 145	" " No. 504 "	3.87	4.28	4.67
300 & 301	Threadless Outlet	....	....	....
310 & 311	"	....	....	....

Numbers	Description	Price
1	Porcelain One Hole Cover.....	\$ .18
2	Metal For Devices.....	.30
3	Porcelain One Hole Cover.....	.30
4	" " "	.22
5 & 6 7      "	Porcelain with Male or Female Nipple....	.38
8         "	" " " " " " " " " " " " " " " "	.68
9 & 10 11      "	Malleable with Male or Female Nipple ..	.30
11 & 12	" " " " " " " " " " " " " " " "	.38

**NOTE:** For "Adapti" Entrance Fittings See Page PL-13.

### Fittings, Armored Cable

		<b>Type GCA</b>		
<b>Without Soldering Lug</b>				<b>Price</b>
<b>Fitting No.</b>	<b>GCA-12 For</b>	<b>1/2" Conduit</b>		<b>\$ .77</b>
05	06	06	06	
-172	05	05	05	
		with lug		<b>.81</b>

With Angle Adjustment		Price
GCD-12 For $\frac{1}{2}$ "	Conduit without Lug with one Strap.....	\$ .90
GCD-172 For $\frac{3}{4}$ "	Conduit with Lug with one Strap.....	.95
GCD-22 For $\frac{3}{4}$ "	Conduit with Lug with two Straps.....	1.77
GCD-32 For 1"	Conduit with Lug with three Straps.....	2.61

Size of Conduit Outside Diameter of Water Pipe Number.....	With Strap Clamp Terminal									
	$\frac{1}{2}$ "		$\frac{3}{4}$ "		$1\frac{1}{4}$ "		$1\frac{1}{2}$ "		$2$ "	
Price.....	\$1.58	\$1.80	\$2.16	\$2.97	\$3.42	\$4.14	\$4.41	\$4.81	\$5.09	\$6.17

GCE-142 For 1/2" Conduit without Lug.....	\$ .90
GCE-242 " 3/4" " with Lug.....	1.04
GCE-342 " 1" " with Lug.....	1.17

GC-92	Cast Brass with No. 4 Lug.....	\$ .72
GC-922	" " " " 00 Lug.....	1.44

Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Without Cap Screw...	\$ .10	\$ .13	\$ .20	\$ .24	\$ .31	\$ .46	\$ .84	\$1.10
With Cap Screw.....	.20	.24	.31	.32	.40	.61	1.00	1.25

	Price
Soldering Lug GCA 30 For GCA & GCD Fittings.	\$ .06
Water Meter Shunt No. GC-192.	1.80
Strap Clamp Terminal For Water Pipe $\frac{1}{2}$ " to $2\frac{1}{2}$ " No. GCE-012.	1.24
" " " " $\frac{1}{2}$ " to $4\frac{1}{2}$ " No. GCE-014.	1.28
" " " " $\frac{1}{2}$ " to $6\frac{1}{2}$ " No. GCE-016.	1.68
Conduit End Terminal $\frac{1}{4}$ " No. GCE1.	.36
" " $\frac{3}{8}$ " No. GCE2.	.63
" " 1" No. GCE3.	.63
Jumper Strap No. GC110.	.15
Threaded Plug Terminals, Iron No. GCE042.	.36
" " Brass No. 082.	.72
Jumper Cable No. GC800, Per Foot.	.18
Jumper for Bonding Conduit 8" Long, No. 808 Per Foot.	.40
" " 12" No. 812 " "	.53
Soldering Lug Brass for $\frac{1}{4}$ " Conduit No. 130.	.20
" " $\frac{3}{8}$ " or 1" No. 160.	.30
Soldering Lug Copper for Bushing $\frac{1}{4}$ " to $\frac{1}{2}$ "	.10
" " " " $\frac{1}{2}$ " to 6."	.05
Brass Stud Double End Fits Bushings $\frac{1}{4}$ " to 6" No. GC52.	.20
Soldering Clips for Bushings $\frac{1}{4}$ " to $\frac{1}{2}$ "	.05
" " " " $\frac{1}{2}$ " to 6."	.09
Grounding Strap, No. GC100, Per Foot.	.25
Strap Clamp, Steel No. GC101.	.35
" " Brass No. GC102.	.65

For BX or Armored Cable		Size of	Price
Description		K. O.	Each
Standard Squeeze Connector $\frac{3}{8}$ - $\frac{1}{2}$ "	.....	$\frac{1}{2}$ "	\$ .06
" Set Screw Connector $\frac{3}{8}$ - $\frac{1}{2}$ "	.....	$\frac{3}{4}$ "	.06
" Slip In Connector $\frac{3}{8}$ - $\frac{1}{2}$ "	.....	$\frac{1}{2}$ "	.06
" Duplex Connector $\frac{3}{8}$ - $\frac{1}{2}$ "	.....	$\frac{3}{4}$ "	.18

STRAIGHT		1/2"	.18
		3/8"	.18
		1/2"	.30
BOX	Squeeze	1/2"	.50
	or	3/8"	.65
CONNECTORS	Tangent	1/2"	.85
	Type	3/8"	1.25
90 DEGREE		1/2"	.32
ANGLE BOX	Squeeze	3/8"	.40
CONNECTOR	or	1/2"	.75
	Tangent	1/2"	1.00
	Type	3/8"	1.25
45 DEGREE		1/2"	.32
ANGLE BOX	Squeeze	3/8"	.40
CONNECTOR	or	1/2"	.75
	Tangent	1/2"	1.00
	Type	3/8"	1.25
PANEL BOX		1/2"	.85
		3/8"	.40
		1/2"	.63
CONNECTOR	Straight	1/2"	.93
	Type	3/8"	1.30
	With	1/2"	1.88
	Locknut	3/8"	2.58
COUPLINGS	For	1/2"	.38
FOR	Conduit	3/8"	.38
FLEXIBLE	"	1/2"	.42
STEEL	"	3/8"	.54
CONDUIT	"	1/2"	.65
	"	1 1/4"	.90
	"	1 1/2"	1.10
	"	2"	1.60

## ELECTRICAL CONTRACTING



Fittings, Armored Cable

FITTINGS OR BOX CONNECTORS, ARMORED CABLE—  
Continued

COUPLINGS FOR RIGID TO FLEXIBLE CONDUIT	For 1/2" Conduit	.32
	" 3/4" "	.44
	" 1" "	.52
	" 1 1/4" "	.72
	" 1 1/2" "	.90
	" 2" "	1.37
Bushings or Ferrules—Brass		.02

FITTINGS FOR "OVALFLEX" ARMORED CABLE

Number	Description	Price
2150-57-60-61	Straps—Fasteners & Bushings	\$.02
2159	Toggle with Wire Loop	.03
2176-2180-2154	Set Screw Connector	.15
2179-2181	Special Box Connector	.10
2155-2156	90 Degree Box Connector	.35
412-413	Connector for Ovalflex to Metal Molding	.35
9050-S	Squeeze Connector	.10

HANGERS

FOR CABLE & CONDUIT  
Minerallac

Hangers	Lead Covered	Price	Porcelain Bushings	Price
No. Size	Cable Size	Jap. Fin. Glv. Fin.	Mfgs. No. For RC Cable	
0 1/2"	No. 14	.07	1 8-2-0	\$.10
1 1/2"	No. 1 to 4/0	.08	2 3-0-4-0	.12
2 1"	4/0 to 300 M	.10	3 250M-450M	.13
3 1 1/4"	500 to 750 M	.10	4 500M-700M	.15
4 1 1/2"	800 to 1125M	.14	5 750M-1000M	.17
5 2"	1500 M	.14	6 1125-2500M	.24
6 2 1/2"	2000 M	.16		

ADJUSTABLE BEAM HANGERS  
T & B or Similar

Type A Clamp Including Bolts Fits Flange 2 3/4 to 7 3/4"	Price Each
Type B & C Clamp Including Bolts Fits Flange 7 to 12"	.75
Special Bolts	.10

Supports for above Hangers

For One Conduit Steel	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
" Two Conduit Mall.	.13	.16	.25	.33	.40	.51	.65	\$.82
" Four Conduit Mall.	.20	.25	.33	.40	.50			
" Four Conduit Mall.	.31	.36						

NOTE: For Price of Complete Hanger add Prices of Clamp & Supports.

HANGERS & PERFORATED BAR  
Grabber

For 1/2 to 1 1/4 Conduit Per Foot	Price Each
" 2 to 3" " " "	.06
" 3 1/2 to 6" " " "	.08

Hangers

No.	Description	1 1/2"	2"	2 1/2"	3"
1	Hinge Hanger with Extn. Bar & Lag Screw	\$.17	\$.17	\$.18	\$.20
7	Band Hanger Extn. Bar and Beam Clamp	.20	.20	.21	.24
13	Hinge Hanger, Socket and Beam Clamp	.32	.32	.35	.36
200	Band Hanger Only	.09	.09	.10	.11
No.	Description	1 1/2"	2"	2 1/2"	3"
1	Hinge Hanger with Extn. Bar & Lag Screw	\$.23	\$.25	\$.26	\$.31
7	Band Hanger Extn. Bar and Beam Clamp	.25	.28	.30	.31
13	Hinge Hanger, Socket and Beam Clamp	.37	.44	.45	.46
200	Band Hanger Only	.12	.14	.16	.17

Lag Screws—Beam Clamps & Beam Plates

No.	Description	Each	2" to 3"	Each
19	Flattened Lag Screw with Bolt—1/2" to 1 1/2"	\$.06	2" to 3"	\$.07
20	Threaded Lag Screw, no Bolt 1/2" to 1 1/2"	.06	2" to 3"	.07
21	Beam Plate with Bolt 1/2" to 1 1/2"	.05	2" to 3"	.06
22	Beam Clamp—Forged—with Bolt 1/2" to 1 1/2"	.16	2" to 3"	.20

KNOBS, TUBES & CLEATS, PORCELAIN

KNOBS

Type	With Screw	Price Each	Without Screws
No. 5 1/2 Split Knobs	\$.02 1/4		\$.02
5 1/2 Solid Knobs	.03		.02 1/4
5 1/2 Nailit		\$.02 1/4	
5 1/2 Screwit	.04		.04
4 & 4 1/2 Knobs Solid	.05		.04
No. 9419 Split 1 1/2 x 1 1/2		.07	.12
9420 Split 2 x 2 1/2		.10	.10
22 Victor Split		.10	.10
6061 Solid Teleph. 2 Groove		.10	.10
6062 " 4		.15	.15

TUBES

Diam.	3" & under	4"	5"	6"	8"	10"	12"	14"	16"
1/2"	\$.01	\$.01 1/4	\$.02	\$.03	\$.08	\$.17	\$.24	\$.32	\$.40
3/4"	.01 1/2	.02	.03	.04	.10	.18	.26	.35	.43
1"	.04	.05	.06	.07	.13	.21	.30	.38	.47
1 1/4"	.06	.08	.09	.11	.11	.25	.34	.43	.52
1 1/2"	.10	.12	.13	.15	.18	.29	.39	.49	.59

CLEATS

2 & 3 Wire

Standard No. 334 2 & 3 Wire Unglazed Cleats without Screws Per Pair	\$.03
Glazed	.06

ONE WIRE CLEATS  
B & D Type—2 Piece

Old No.	Dimensions	Width	For Size Wire	Price Each
No.	Height	Length		
1A	1 1/4"	1 1/4"	14 to 6	\$.06
1 1/2 A	1 1/2"	1 1/2"	6 " 2	.08
2A	2 1/4"	1 1/4"	2 " 0	.10
2 1/2 A	2 1/2"	1 1/2"	0 " 000	.15
3A	3 1/4"	1 1/4"	000 " 200,000 CM	.17
3B	3 1/4"	1 1/4"	000 " 200,000 CM	.18
3 1/2 B	3 1/2"	1 1/2"	2 " 500,000 CM	.20
4B	4 1/4"	1 1/2"	5 " 1,000,000 CM	.25
4 1/2 B	4 1/2"	1 1/2"	8 " 1,250,000 CM	.35

LOOM & L-SUNDRIES

LOOM, NON-METALLIC CONDUIT

Size	1/4"	3/8"	1/2"	5/8"	3/4"	1"
Price per Foot	\$.03	\$.03	\$.09	\$.12	\$.15	\$.23

SOLDERING LUGS—One Hole

For Wire	Size	Amps.	Size Wire	Price Each
No. 10 Under		25	1/8"	\$.04
8		35	3/16"	.05
6		50	1/4"	.06
4		70	5/16"	.08
2		90	3/8"	.09
0		125	1/2"	.12
00		150	5/8"	.18
000		175	3/4"	.21
0000		225	7/8"	.36
250 M. C. M.		237	1"	.51
400 M. C. M.		325	1 1/4"	.70
450 M. C. M.		362	1 1/2"	.73
500 M. C. M.		400	1 3/4"	.76
600 M. C. M.		450	2"	.96
800 M. C. M.		550	2 1/2"	1.17
1000 M. C. M.		650		

For 2-Hole Lugs

With Regular Stud Holes Add 50% To Above Prices.

CONDUIT LOCKNUTS

Also on Page PL-8

Size	Price
1/2"	\$.01
3/4"	.01 1/4
1"	.02 1/4
1 1/4"	.06
1 1/2"	.10
2"	.14
2 1/2"	.24
3"	.38
3 1/2"	.50
4"	.68

LINKS

For Chain

Non-Insulating Splicing Links—Any Make—Each	Price
Insulating	\$.05
Luminous Acorns—See Page PL-4 and Page PL-18.	.15

MAIL BOXES

COUCH

No. 73 Tilting Mail Boxes Post Office approved per Receptacle	\$.15
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"TILTING" Speaking Tube Type

Series 7303 to 7309 and 73010 to 73012

No. of Boxes	3	4	5	6	7	8	9	10	11	12
Price ea.	16.20	21.60	27.00	32.30	37.80	43.20	48.60	54.00	59.40	64.80

SINGLE GANG Non-Tilting

No. 78 or 780 with call button or speaking tube unit	Price each
	\$.15

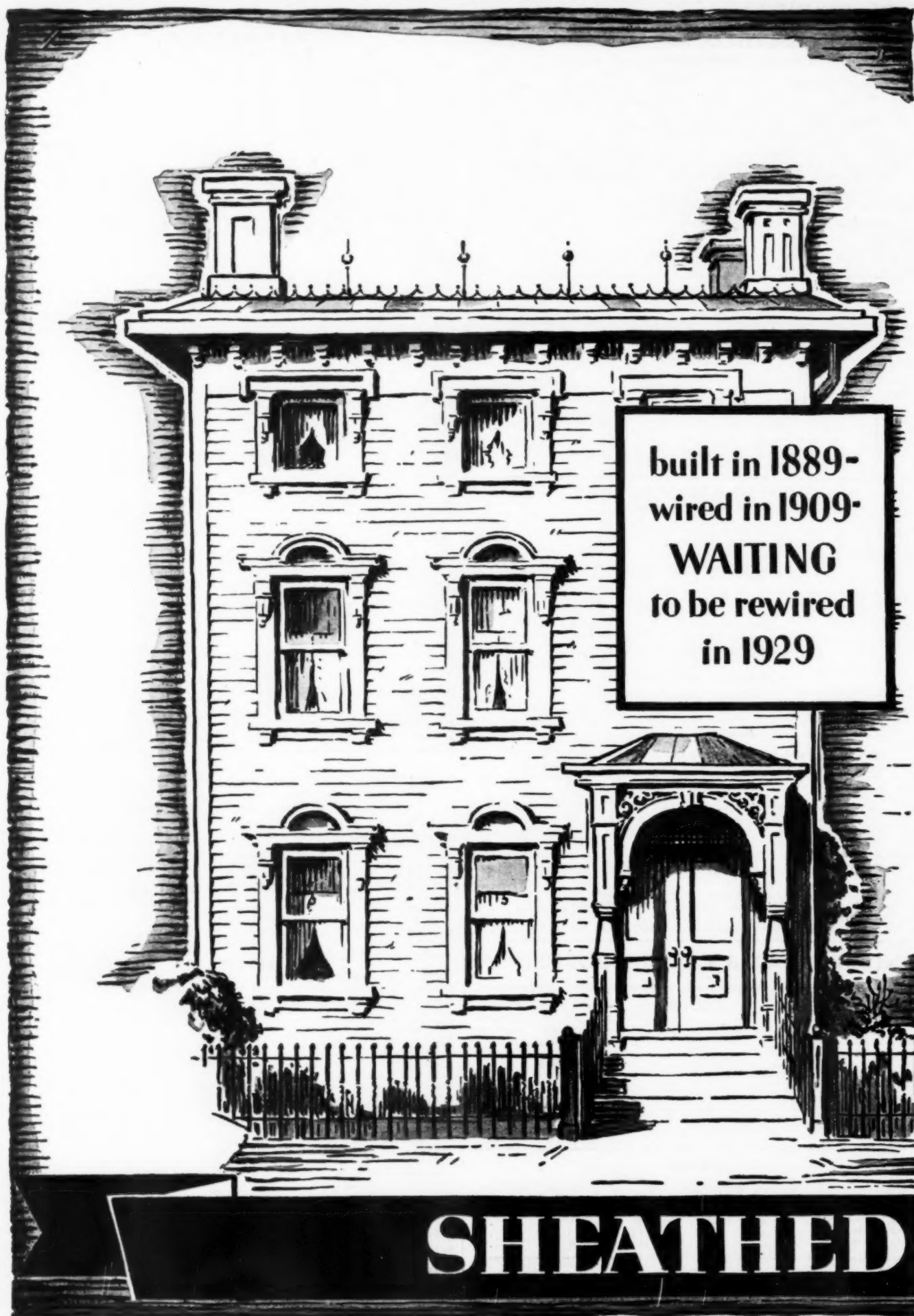
MOLDING, NATIONAL

MOLDING

No. 022 & 222 Molding For Two Wires—Per Foot	\$.10
033 & 044 " Two to Four Wires—Per Foot	.11

FITTINGS

No.	Description	Price Each	No.	Description	Price Each
200-201	Bushing	\$.01	348	Cord Rosette	\$.32
223	Clip	.02	354	Double Strap	.02
232	Coupling	.04	355	Ground Clamp	.05
234	Cross	.43	356-7	Keyless Socket	.65
235	Tee	.24	360	Conven. Outlet	.75
236	90 Deg. Elbow	.20	363	4 1/4" Plate	.35
237	45 " "	.20	363A	4 1/4" Cover	.24
238-9	90 " "	.20	363B	4 1/4" " "	.28
245	Single Strap	.02	363C	Yoke	.06
255	Ground Clamp	.04	365A	4 1/4" Base	.60
278	Adaptor	.05	365B	4 1/4" Cover	.30
300	" "	.08	365C	4 1/4" Plate	.32
301	Box Connector	.15	366	6" Canopy Base	.85
303	Adaptor	.04	366A-B-C	6" Covers	.50
315	Connector	.35	370	Blank Cover	.25
316	90 Deg. Coupling	.30	371-2-3	Porcelain Cover	.25
317	90 " Connector	.30	376	Corner Box	.45
321A & B	Rawl Plug	.04	377	Adaptor	.10
323	Joint Cap	.02	392	Snap Switch	.85
332	Coupling & Supp.	.05	396	Pull Socket	1.15
334	Cross	.45	397	Key " 2 1/4" Base	.77
335	Tee	.24	398	" " 2" "	.50
336	90 Deg. Elbow	.22	399	Keyless Sock. 2" Base	.50
337	90 " Ext. Elbow	.20	400	Base for Socket	.50
337B	Cap for Elbow	.10	401	Box Connector	.15
338	90 Deg Int. Elbow	.22	406	Combinat. Fitting	.30
338B	Cap for Int. Elbow	.12	407	Utility Box	.40
339	Drop Cord Box	.37	412	Connector	.24
341	Surface Box	.40	413	" "	.28
342	" "	.40	414-S	" "	.24
344	Base Coupling	.04	419A & B	Toggle Bolt	.09
345	Single Strap	.02	419C	" "	.10



and there are -

# over ten million other homes just like this one

**T**HEY are scattered all over the country in village, town and city.

They represent the big wiring profits for 1929.

They offer ten times the volume that all the "New Homes" to be built this year will offer.

Tie in with the "Old House Wiring Campaign" that your local Electrical League, or

your central station, is running. Go after this business now—and keep after it for the rest of the year.

But go after it with Sheathed Cable.

For Sheathed Cable ties up less money in stock, is easier to install, gives your customer a safe wiring installation, and gives you a real profit on the job.

*If you want further information, any of the licensed Manufacturers listed below will be glad to send you the booklet—"Where and How to Use Sheathed Cable"*

Anaconda Wire and Cable Company

Eastern Tube and Tool Company

General Electric Company

Marion Insulated Wire Company

National Electric Products Company

Rome Wire Company

*Division of General Cable Corporation*

The Wiremold Company

*The above Manufacturers are licensed under Non-metallic Sheathed Cable Patents number 1439323; 1520680; 1203788; 1673752.*

# CABLE



# Just a job today— but part of your reputation tomorrow!

.. And reputation is a  
master-builder of business

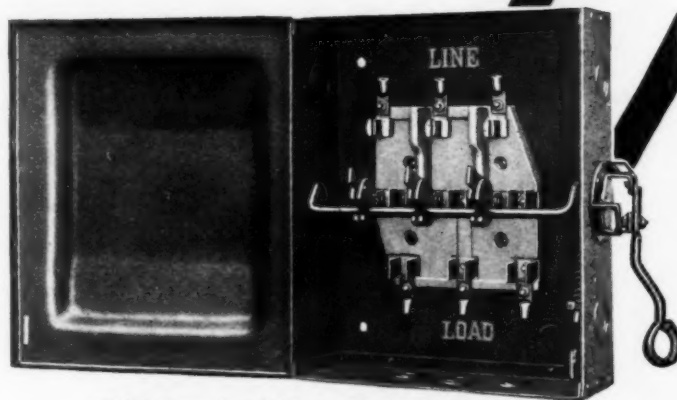
**E**VERY wiring contract you finish helps to make or break your reputation. To make certain that the job you do today is on the profit side of reputation tomorrow, use only materials that assure thorough satisfaction to your customers. Particularly — when in using these materials you have *good reasons* for charging a fair price for your work.

Safety switches must bear their share of the burden of satisfying the customer. And your reputation is safest—your profits come easiest—when you use Cutler-Hammer "T-V" Safety Switches.

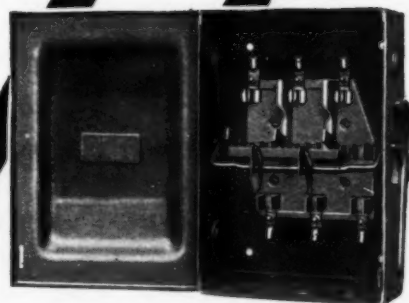
The C-H General Duty (Type C) Switch gives extra years of service and cuts maintenance to a point previously impossible. Quick make—no chance for a timid operator to "slow-burn" or fuse the contacts. A strong spring slams the contacts home—assures instantaneous and thorough "make" in every case—and an equally quick break. The base is of molded crack-proof material. The case is small, compact, handy—yet provides ample room for wiring. Back of all these profit-bringing features you have the prestige of the Cutler-Hammer name which stands—everywhere—for the highest quality and superior performance.

C-H General Duty (Type C) Switches are made in 6 sizes—from 30 to 400 amperes, at 250 and 600 volts. Reliable jobbers can supply you. A complete catalog will be sent at your request.

**CUTLER-HAMMER, Inc.**  
Trumbull-Vanderpoel Elec. Mfg. Co., Inc.,  
Subsidiary  
1307 St. Paul Avenue  
MILWAUKEE, WIS.



C-H Standard Duty Switch, Type C



Long Service in Entrance Switches  
(for Light Duty) at a Low Price

The C-H "T-V" Entrance Switch, with quick break mechanism, has the same general design and construction as the C-H Type C—including molded, crack-proof base. 21 sizes—from 30 to 100 amperes, at 125 and 250 volts. Solid neutral, 2 or 3 wire. Low price.

## CUTLER HAMMER

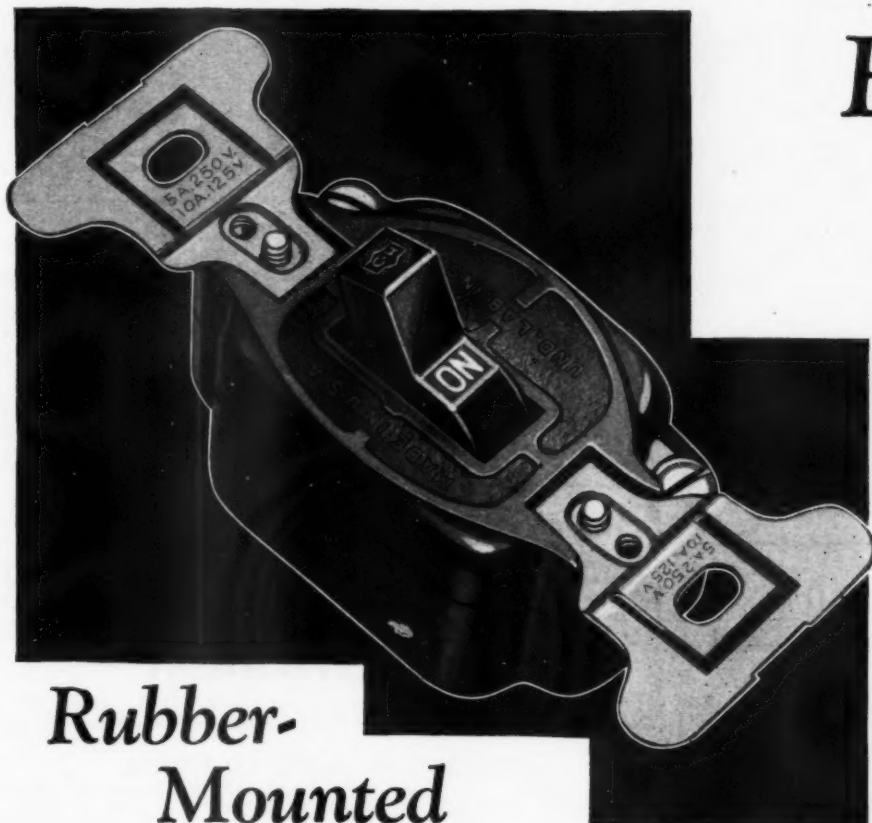
*High Quality Safety Switches For Every Service*

(9624)

# New C-H

## Enclosed Toggle Switch

Catalog No. 7281



### Rubber- Mounted

**Q**UIET action—protection from wear—neat appearance—fits any box—every desirable feature of a switch is found in this new C-H "Rubber-Mounted" Toggle Switch.

With the "full-floating" mechanism mounted on two resilient rubber cushions, there is not a metal connection between the mechanism and the body to transmit sound. The case is made of heat-proof Thermoplast to give strength, keep contacts lined up and to keep out all grit and dirt. It fits all

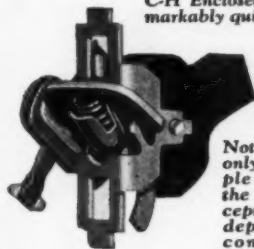
boxes—works equally well with all plates.

The mechanism is extremely simple. Not a screw in it—and but one rivet. Short, stubby contact blades are heavy to prevent "bounce" and pitting. The spring is of the compression type which distributes wear evenly.

These and other features make the new C-H "Rubber-Mounted" Toggle the switch for jobs where long life and quiet action count. Made in single pole, double pole, 3-way and 4-way types.



Note the two resilient rubber cushions on which the mechanism is mounted. This, with the absence of metal connections, makes the new C-H Enclosed Toggle Switch remarkably quiet.



Not a single screw and only one rivet—this simple construction makes the C-H mechanism exceptionally strong and dependable. Note the compression spring, brass-shielded for lubrication and security.

**CUTLER-HAMMER, Inc.**

*Pioneer Manufacturers of Electrical Apparatus*

1258 St. Paul Avenue

MILWAUKEE, WISCONSIN

# CUTLER HAMMER

MODERN WIRING



NECESSITIES

(8776)

# PL-16

## Molding

## Plugs, Attachment

### FITTINGS—Continued

No.	Description	Price Each	No.	Description	Price Each
420A&B	Spring Toggle Bolt	.08	441	Single Adaptor	.60
420C	Lead Shield	.09	442	Two Gang Bushing	1.00
421	Folding Strap	.10	500	3 Gang Adaptor	.03
426	Susp. Strap 2 Line	.04	513	4 " " " "	1.50
427	Folding Strap	.05	514	5 " " " "	2.00
428A	Fixture Rosette	.03	515	6 " " " "	2.50
430	Single Strap	.06	516	7 " " " "	2.95
434	Double Strap	.08	523	8 " " " "	1.50
436	Coupling	.06	524	9 " " " "	2.00
437	45 Deg. Elbow	.20	525	10 " " " "	2.50
438	Sgle. Flush Box	.80	526	90 Deg. Connect.	2.95
439	Surface Box	.70	2155	90 " " " "	.35
439S	Two Gang Surface Box	.75	2156		.35
440		1.00			

### OVALDUCT

3 Wire ..... Per Foot \$.18

### OVALDUCT FITTINGS

No.	Description	Price Each
401	Box Connector with 1/4" Locknut	\$.15
2133	Squeeze Type Coupling 1 1/4" long	.15
2134	90 Degree Internal Elbow	.35
2135	45 " Flat	.27
2156	90 " Box Connector	.34
2159	Wire Toggle Fastener	.03
2161	Strap Fastener	.02
2181	Connector Ovalduct to Oval Knockout	.10
2662	Outlet Box 4 x 3/4"	.21
2663	Extension Ring for Boxes	.20
2665	Outlet Box 4 x 3/4" with Fixture Stud	.28
2862	" 3 1/4 x 3/4"	.20
2865	" 3 1/4 x 3/4" with Fixture Stud	.27
4170-S1	Sectional Switch Box 4 x 1 1/2 x 1	.38
4172-S1	Spacer for above box	.34

## MOLDING, WIREMOLD

### MOLDING

No. 500 2-Wire, price per ft.	\$.10
" 700 6-Wire, " " "	.12
Master Size, " " "	.25

### FITTINGS

	For No. 500 2 Wire Size	For No. 700 4 Wire Size	For Master Size
Coupling	501 .04	5701 .04	1001 .06
Bushing	502 .04	702 .04	1002 .04
Supporting Clip	503 .06	5703 .06	
Strap	504 .04	704 .06	1005 .08
Connecting Cover	506 .04	706 .04	
Ground Coupling or Clamp	509 .12	5709 .12	1009 .20
90 Degree Flat Elbow	511 .22	5711 .22	1011 .45
45 " "	512 .22	5712 .22	
Tee Plain	515 .36	5715 .36	
Cross Plain	516 .37		
Internal Elbow	517 .26	5717 .26	1017 .45
Elbow Pull Box		5717A .50	
External Elbow	518 .22	5718 .22	1018 .40
Corner Box	519 .37	5719 .45	
Narrow Fitting		5720 .55	
Show Case Fitting		5720A .45	
One Piece Rosette	521 .36	5721 .36	
Two Piece Rosette and Block	522 .50		
Fixture Rosette, 3/4"	523 .70		
Receptacle Base	524 .65	5724 .65	
Keyless Receptacle	525 .70	5725 .70	
Attachment Plug	526 .90	5726 .90	
Utility Box	527 .90	5727 .95	
Contact Block		5728-20 .36	
Blank Cover	531 .30	5730 .30	
Outlet Box, 2 1/2"	532 .14	5731 .14	
" 3"	532 .45	5732 .45	
Outlet Box, 3"	533 .45	5733 .45	
Closed Extension Box		5734 .65	
Distribution Box		5735 .70	1085 1.05
Blank Cover	536 .16	5736 .16	
Extension Box, 4 1/4"	537 .65	5737 .65	
Fixture Box, 4 1/4"	538 .65	5738 .65	
" 6 1/2"		5739 & A .85	
Combination Box		5745 .70	
Switch or Recept. Box, Single		5747 .80	
" " 2 Gang		5747-2 1.00	
" " 3 Gang		5747-3 1.15	
Surface Box, Single		5748 .90	
" 2 Gang		5748-2 1.20	
" 3 Gang		5748-3 1.25	
Push Switch Box	549 1.00	5749 1.00	
" Shallow	550 1.05	5750 1.05	
Adaptor Plate and Cover, Single	551 .70	5751 .70	
" 2 Gang	552 1.25	5752 1.25	
" 3 Gang	553 1.35	5753 1.35	
Box Connector	581 .34	5781 & A .34	
Conduit Coupling	582 .38	5782 & A .38	
Elbow Box Connector, 1/4" Male	583 .38	5783 .38	
Conduit Elbow, 1/4" Female	584 .38	5784 .38	
Combination Connector	585 .25	5785 .25	
Offset Connector		5786 .40	1086 .65
Openwork Coupling	588 .36	5788 .40	
Kick Plate			1087 .34

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## N-SUNDRIES

### PIPE NIPPLES Galvanized Wrought Iron

Length	Size 1/2"	Size 3/4"	Size 1"	Size 1 1/4"	Size 1 1/2"	Size 2"	Size 2 1/2"	Size 3"
Close Nipples	\$.06	\$.06	\$.06	\$.07	\$.10	\$.14	\$.17	\$.20
2" to 3 1/2" Long	.10	.10	.10	.12	.15			
2 1/2" to 4"						.28	.35	
3" to 4 1/4"								
4" Long	.11	.11	.10			.22		
5" " "	.12	.12	.14	.14	.20	.24	.30	.36
6" " "	.14	.15	.15	.17	.22	.28	.34	.40
7" " "	.18	.18	.18	.21	.27	.34	.40	.55
8" " "	.20	.20	.21	.23	.30	.37	.45	.60
9" " "	.21	.21	.22	.25	.33	.40	.50	.67
10" " "	.23	.23	.24	.27	.37	.40	.56	.75

NOTE—Above prices are for ordinary galvanized pipe nipples as used by plumbers and steam fitters. If nipples have to be made up from conduit charge the foot price of conduit plus regular labor charge.

### CHASE NIPPLES & COUPLINGS

Size	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Chase Nipples, each	\$.10	\$.10	\$.10	\$.15	\$.25	\$.30	\$.34	\$.48	\$.78	\$.1.20
" Couplings	.12	.12	.12	.14						

For Erickson Couplings, see Page PL-8.

### CHASE MALE REDUCERS CHASE FEMALE ENLARGERS

1/4" to 1/2" Reducer, each	\$.15	1/2" to 3/4" Enlargers, each	\$.15
1" to 1 1/4" " "	.20	1 1/4" to 1 1/2" " "	.20
1 1/4" to 1 1/2" " "	.40	1 1/2" to 2" " "	.30
		2" to 2 1/2" " "	.50

### NAILS

#### Insulated

Millonite Insulated Nails, per dozen	\$.05
Leather Nail Heads, " "	.05
Staples Insulated, " "	.05

## PLUGS, ATTACHMENT

### ATTACHMENT PLUGS COMPLETE

Style	Cap	Blades	Price
Pony Comp.	Composition Metal Cov.	Parallel	\$.15
Standard Comp.	Comp. 1/2"	"	.25
" " "	Comp. 3/8"	"	.25
" " "	Metal Cov.	"	.30
Bakelite Comp.	Composition	"	.35
Polarized	"	Polarized	.25
Large Size	"	Tandem	.55
Heavy Duty	Brass Cov.	Polarized	1.25
Weatherproof	One Piece	None	.35

### CAPS ONLY For Attachment Plugs

Style of Cap	Pony	Blades	Price
Composition	Standard	Parallel	\$.10
" " "	"	"	.10
" " "	"	Polarized	.10
Bakelite	"	Parallel	.20
" " "	"	"	.20
" " "	"	"	.20
Paraline Convertible	"	Convertible	.40
Composition Large	"	Tandem	.20
Metal Covered Pony	"	Parallel	.15
" " Standard	"	"	.15
Brass " " "	"	"	.45
" " Heavy Duty	"	Polarized	.45
" " " "	"	Tandem	.85
" " 20 Amp.	"	"	.40
" " " "	"	Polarized	.50
Knostain Composition	"	Parallel	.95
" Brass Covered	"	Tandem	.85
" " " "	"	"	.95
Cord Grip Steel Covered	"	"	.50
" " " "	"	Parallel	.50
" " 3 Wire	"	Polarized	.50

### BODIES ONLY For Attachment Plugs

Pony Composition Body only	\$.10
Standard " " "	.15
Bakelite " " "	.20

### Flasher Plugs

Diamond Flasher Button	\$.60		
Skeedoodle Plugs No. 125	2.50	No. 161	\$.80
" " No. 164	.60	No. 165	.90

## ELECTRICAL CONTRACTING



## PLUGS, APPLIANCE

Make	Number & Description	Price Each
American Beauty	802-803 Plug Complete for Small Irons.....	.50
"	806 " " " Large Irons.....	1.35
"	807 " " " Toasters & Stoves.....	.25
Arrow.....	6510 " " " with Switch.....	.90
Beaver.....	F1 Gripall Super Type Adjust. Contacts.....	.45
"	F4 " " Nickel Alloy Contacts.....	.55
"	F5 " " Armored Case.....	.55
"	F6 " " Type Arm'd Case Nickel Alloy Cont.....	.60
"	F7 " " High Grade Bakelite.....	.60
"	F22 Suitzall Double Contacts.....	.20
"	F31 " " Single Contacts.....	.15
"	F32 " " Double Contacts.....	.20
"	F32 " " Armored Case.....	.30
"	F34 " " Small Plug Bakelite.....	.30
"	G-1 Gripall Plug Adjust. Contacts.....	.90
"	G-21 Push Button Type.....	.45
"	G-22 New Toggle Type.....	.45
Bryant.....	668 Plug Complete with Switch.....	.85
"	752 " " Shorter than 668.....	.85
Cutler-Hammer.....	7051 Plug Complete with Switch.....	.85
Dover.....	13 Up Connector Plug for 3½ & 6 lb. Irons.....	.50
"	13 Switch Plug Complete.....	1.00
Hemco.....	250 Heater Plug, no Switch.....	.55
Hemco.....	Switch Appliance Plug.....	.45
Hotpoint.....	CD6P1 Iron Plug.....	.45
"	CD6P1 " " Armored.....	.60
"	CD79P1 " " with Switch.....	1.00
Hubbell.....	7020 Appliance Switch Plug.....	.90
Kool-Pull (Colts).....	Appliance Plug, no Switch.....	1.00
"	" " with Switch.....	1.25
Liberty.....	932 Heater Plug.....	.35
Plugall.....	9 " Appliance Plug with Spring.....	.85
"	700 " " Switch.....	.85
Propp.....	5-One 4 All Appliance Plug, no Switch.....	.30
"	55 Standard Iron Plug, no Switch.....	.25
"	56 Armored.....	.55
"	52 Iron Plug with Switch.....	.55
P & S.....	1550 Appliance Switch or Pendant.....	.90
Reynolite.....	500 Reynolite Connector Plug, no Switch.....	.50
"	510 " " with Switch.....	.85
Rodale.....	P-21 Appliance Plug No Switch.....	.25
"	P-29 " " Armored.....	.30
"	610 " " Bakelite No Switch.....	.30
"	615 " " " Armored.....	.45
"	850 " " With Switch.....	.65
"	800 " " Armored With Switch.....	1.00
Security.....	151 Security Appliance Plug, no Switch.....	.40
Simplex.....	890 Armored Appliance Plug, no Switch.....	1.00
Suitzall (Beaver).....	F2 Heater Plug Contact Clips.....	.25
"	F22 Regular Binding Screws.....	.25
Sunbeam.....	Heater Plug.....	1.50
Torrid.....	B-080-3-4-5-6 Safety Control Plug.....	1.00
"	B-080-3-4-5-6 Heat Control Plug.....	1.00
Westinghouse.....	299423 Plug Complete, no Switch.....	.75
"	373656 " " with Switch.....	1.00
White Cross.....	White Cross Heater Plug, no Switch.....	.50
"	" " with Switch.....	.90

## PANEL BOARDS OR FUSE CABINETS

## BULLDOG FUSENTERS

No.	Description	2	4	6	8	12
		Circ.	Circ.	Circ.	Circ.	Circ.
CBS	Surface Black Finish with inside shield	\$1.85	\$2.35	\$3.95	\$7.10	\$10.40
BOS	" Black Finish without Shield	1.70	2.20			
BF	Flush Luminized Finish	2.50	3.75	5.40	8.80	11.80
BBF	" Black Finish	2.00	2.75	4.75		
BSF	" Lum. Finish with Toggle Switches		6.65	10.00	13.30	20.00
BSS	" Lum. Fin sh with one 30 A. Saftofuse		20.60	22.00	32.00	35.25
BSS	" Lum. Finish with one 60 A. Saftofuse		21.60	22.50	32.35	35.65
BKF	" Lum. Finish Combined Fusenter & Pull Box		6.65	10.00	15.00	20.00

Combinations—For Resale Prices on all other Fusenter Combinations deduct 17% from Bulldog Co.'s List Prices.

## FUSE CABS

All Steel Equipment Co., Aurora, Ill.

Style & No.	Description	2	4	6	8	12
		Circ.	Circ.	Circ.	Circ.	Circ.
C-702-4-6	Surface Small Type	\$1.75	\$2.45	\$3.75		
C-902-4-6	Flush Small Type	2.20	2.85	4.95		
Series D	Surface Type Sgl. Fuse					
3004 to 3074	Not for Branch Switch		3.20	5.10	\$7.50	\$10.10
	Flush Type					
3034 to 3094	Not for Branch Switch		3.75	5.60	9.00	12.10
	Surface Type Dbl. Fuse					
4002 to 4012	Not for Branch Switch	3.20	5.10	10.10	23.00	36.00
	Flush Type Dble. Fuse					
4022 to 4032	Not for Branch Switch	3.75	9.00	12.10	27.00	45.00
Series DS	Flush or Surface-Sgle.					
3300 & 4300	Fuse Trims for Tog. Sw.	6.90	9.25	13.80	21.00	
	Flush or Surface-Dble.					
3500 & 4500	Fuse Trims for Tog. Sw.	6.90	9.25	21.00	34.50	70.00

July, 1929

TRUMBULL—CIRCLE T  
Residence Panel Boards

	4	6	8	10	12
	Circ.	Circ.	Circ.	Circ.	Circ.
Surface or Flush Mounting					
Single No 3104 to 3212 Flush Mtg.					
Or Fusing 2906 to 2912 Surface Mtg.	\$2.85	\$4.60	\$9.75	\$11.30	\$13.00
Double No. 3404 to 3412 Flush Mtg.					
Or Fusing 2704 to 2712 Surface Mtg.	9.15	12.45	18.25	23.25	26.60

TRUMBULL-VANDERPOEL  
Fuse Panels—For Flush Mounting

Number of Circuits	2	4	6	8	12
Black Enamel Finish	No. 2B to 12B \$1.90	\$2.60	\$4.70	\$8.25	\$10.25
Aluminum Finish	No. 2A to 12A 2.45	3.45	5.40	8.70	11.70

## SQUARE D

## Fuse Cabinets

	2	4	6	8	10	12
	Circ.	Circ.	Circ.	Circ.	Circ.	Circ.
Series 37000 to 39000						
Flush Series 37000 Black	\$1.85	\$2.50	\$4.50	\$7.90	\$9.60	\$11.25
" " 37000 Aluminum	2.35	3.35	5.20	8.30	10.00	11.25
Surface Series 39000 Black	1.85	2.50	4.50	7.90	9.60	11.25

NOTE: 2 & 4 Circuit Flush Type are also available with channels for Lath Ends for mounting direct to front side of studding. For these cabinets add to Resale Price each.....\$0.20

## WESTINGHOUSE

## Junior Residence Type

	2	4	6	8	10	12
	Circ.	Circ.	Circ.	Circ.	Circ.	Circ.
Galvanized or Gray Box						
Junior Residence Panels						
No. K-64012-21 & 64052-61	\$1.70	\$2.50	\$4.50	\$6.65	\$7.90	\$10.00
Junior Branch Fuse Attach						
No. K-62398 & 62399	1.75	2.60				
Junior Building Panels for						
Toggle Switches						
No. K-64034-42 & 64074-81		6.65	10.00	13.30	16.60	20.00

## DIAMOND PANELETTES

## Surface Type

## Flush Type

No.	Circuits	Size	Price	No.	Circuits	Size	Price
B-4	4	7x7x3	\$2.15	F-4	4	8x10¼x3¼	\$3.30
S-4	4	8x10¼x3¼	2.50	F-6	6	8x12x3¼	4.45
S-6	6	8x12x3¼	3.50	F-8	8	8x13¼x3¼	8.25
S-8	8	8x13¼x3¼	6.85	F-10	10	8x15¼x3¼	9.75
S-10	10	8x15¼x3¼	7.40	F-12	12	10x18x3¼	11.15
S-12	12	10x18x3¼	9.90				

## Toggle Flush Type

No. of Circuits	4	6	8	10	12
Cat. Number	FS-4	FS-6	FS-8	FS-10	FS-12
Price	\$6.60	\$9.90	\$14.85	\$17.30	\$19.80

## P-SUNDRIES

## RUNNING THREAD, PIPE

Price per Foot	1"	1½"	2"	2½"
	\$ .25	\$ .30	\$ .35	\$ .45

## SOLDERING PASTE

(Also on Page PL-25.)

Make	2 Oz. Cans	2 Oz. Tubes	4 Oz. Cans	Half Pound Cans	One Pound Cans
Allen.....	\$ .30	\$ .40	\$ .55	\$ .90	\$1.50
Burnley.....	.20		.30	.40	.70
Crecent.....	.25		.35	.50	1.00
G. E.....	.20			.80	1.50
Highland.....	.30			.80	1.50
Nokorode.....	.20			.80	1.50

## PAINT &amp; VARNISH

## Insulating

Make	Per Pint	Per Quart	Per Half Gallon	Per Gallon
Armamac.....	\$ .55	\$1.00	\$1.75	\$3.00
Ajax Varnish No. 25.....	.40	.75	1.35	2.20
Enamelac.....	.40	.75	1.35	2.20
G. P. Black or Clear.....	.45	.80	1.45	2.60
Lustorac.....	.40	.75	1.35	2.20
Voltoac Quick Drying.....	.40	.75	1.35	2.20
W. P. Black Insulating.....	.40	.75	1.35	2.20
P. & B. No. 2 Paint.....	.55	1.00	1.75	3.00
Pothead Compound, per Pound.....				\$ .55

For Pipe Straps, see Page PL-25. For Solder, Sticks, etc., Page PL-25.

## PLATES &amp; PLUGS, RECEPTACLE

## PLATES

## For Flush Receptacles

	.040 Thick	.060 Thick
	Sprayed B. Brass	Sprayed B. Brass
Stand. Recep. Plate Single or Duplex	\$ .15	\$ .20
Lift. Cover Pl. Single or Duplex	.30	.40
Lift. Cov. 2 Gang Single or Duplex	.50	.75
Combination Switch & Receptacle.....		.55
Disappearing Door Plate Single.....		.70
Duplex.....		1.10

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### For Receptacles

Bakelite or Composition Plate Single or Duplex Each.....	\$ .20
2 Gang Combination Plate Each.....	.40
Guth Porcelain Plate for Single or Duplex Receptacle.....	.30
Mirror Glass Single Plate \$1.00—Duplex \$1.75—3 Gang.....	2.50
Bryant Wood Inlaid One Gang For Single or Duplex Receptacle.....	2.25
De Luxe All Metal.....	.85
Hubbell Bakelite Screwless Plate " " " ".....	.50
Brass Single Plate for 30 Amp. Receptacle 7072 & 7114.....	1.50

## CAPS OR PLUGS

### For Receptacles

Style of Cap		Blades	Price
Composition	Pony	Parallel	\$ .10
"	Standard	"	.10
"	"	"	.10
"	Bakelite	Polarized	.20
"	Large Type	Parallel	.20
"	Large Type	Tandem	.20
"	Large Type 10 Amp.	Polarized	.40
"	" 20 "	"	.45
"	" 30 "	"	1.50
"	3 Wire 10 "	"	.45
"	3 " 20 "	"	.65
"	3 " 30 "	"	.65
"	"	"	1.25
"	Diapp. Door Plug	"	.70
Brass Covered	Standard 10 A.	Parallel	.45
"	" 10 A.	Polarized	.45
"	Heavy Duty 10 A.	"	.85
"	Heavy Duty 10 A.	Tandem	.50
"	Heavy Duty 20 A.	Polarized	.95
"	3 Wire 20 A.	"	1.00
Steel Covered	3 Wire 30 A.	"	2.25
"	2 " 30 A.	"	1.85
Knostrain	Composition	Parallel	.45
"	Brass Covered	"	.95
"	"	Tandem	.85
"	"	"	.95
"	Heavy Duty	"	.65
Cord Grip	Steel Covered	"	.50
"	"	Parallel	.50
"	"	Polarized	.50
"	3 Wire 10 Amp.	"	.85
"	3 Wire 20 Amp.	"	.60
"	3 Wire 30 Amp.	"	1.70

### STANDARD RECEPTACLES OR CONVENIENCE OUTLETS

Without Plates			Plates Extra	Price
Shallow	Comp.	Side Wired	Single.....	\$ .25
"	"	"	Duplex.....	.35
"	Porc.	"	Single.....	.25
"	"	"	Duplex.....	.35
Deep	Comp.	Top	Single.....	.45
"	"	"	Duplex.....	.65
"	Porc.	"	Single.....	.45
"	"	"	Duplex.....	.65

## SUNDRY RECEPTACLES

**Plates Extra Except Where Marked "X"**

[illegible]

## RECEPTACLE COMBINATIONS

**With Plates  
Bryant Numbers or Equal**

	Dry-Run Numbers or Equal	Price
2957-2979	One Flush Recep. One Tumb. Switch Tempus or Brass Plate.	\$1.75
2967-2989	One Comp. Recep. One Tumb. Switch Tempus or Brass Plate.	1.90
117	" Porc. Flush Recep. One Ind. Switch-.060 Brass Plate....	2.00
121	" "	2.00
514	" " Disap. Door Rec. One Bulls Eye Solid Plate.....	5.00
518	" "	7.50
467	" " Flush Recep. One Flush Switch Bulls Eye Solid Plate....	6.00
763	Duplex Flush Recep. Bulls Eye Solid Plate.....	3.75
558	" " Push Switch Bulls Eye Solid Plate.....	6.30
427	Bulls Eye Receptacle & Lamp no plate.....	1.25
	Hubbell Switch Tap Combination #7163 & 7164 without Plate.....	2.15

## RECEPTACLES, PORCELAIN

## PULL TYPE OR LAMPHOLDERS

### Keyless & Pull Chain for Lighting

Univ. No.	G. E. No.	Type	Price
994	2288	Insulated Chain and Cord .....	\$ .65
995	2292	8' Chain .....	.55
996	2289	Cord Only .....	.55
997	2293	8 Inches of Insulated Chain .....	.60
998	2287	Short Chain and Cord .....	.60
999	....	3 Feet of Chain .....	.80

## ALABAX RECEPTACLES AND FIXTURES

**P & S, Hubbell, Arrow, G. E., Bryant, Weber**

**Symbol:** Column No. 1—Number of Alabax Fixture.  
Column No. 2—Resale Price Standard White Glaze Finish.  
Column No. 3—Resale Price All Over Color B-D-E-F-G-H-J-K-L-M.  
Column No. 4—Resale Price Stripe Decoration No. 1A-2A-4A.

Column No. 1 Number	Column No. 2 White	Column No. 3 Color	Column No. 4 Stripe	Column No. 1 Number	Column No. 2 White	Column No. 3 Color	Column No. 4 Stripe
AL 844	\$3.30	\$3.80	.....	AL 985	\$1.20	\$1.50	\$1.65
845	3.60	4.05		989	1.85	2.15	2.30
846	3.85	4.30	\$4.80	990	1.90	2.20	2.40
847	4.15	4.60	5.05	1200	2.20	2.45	2.65
848	1.85	2.15	2.30	1201	2.50	2.75	2.95
849	2.30	2.60	2.75	1202	2.20	2.45	2.65
850	2.30	2.60	2.75	1203	2.50	2.75	2.95
851	1.40	1.65	1.85	1273	.45	.60	.70
852	3.30	3.75	4.20	1274	.80	.90	1.00
853	3.60	4.05	4.55	1275	.85	1.00	1.10
859	1.85	2.15	2.30	1276	.15	.30	.40
863	1.85	2.15	2.30	1300	2.80	3.10	3.25
864	2.75	3.20	3.65	1301	2.80	3.10	3.25
865	3.05	3.50	3.95	1349	2.60	2.90	3.10
866	2.75	3.20	3.65	1350	2.60	2.90	3.10
867	3.05	3.50	.....	1351	1.70	1.95	2.15
869	2.50	2.75	2.95	1369	2.75	3.05	3.25
870	2.50	2.75	2.95	1370	2.75	3.05	3.25
871	1.55	1.80	2.00	1371	1.85	2.15	2.30
872	3.30	3.80	4.20	1449	2.70	2.95	3.15
873	3.60	4.05	4.50	1450	2.70	2.95	3.15
875	2.30	2.60	2.75	1451	1.75	2.05	2.25
898	.95	1.20	1.40	1469	2.85	3.10	3.30
919	1.65	1.90	2.10	1470	2.85	3.10	3.30
920	1.65	1.90	2.10	1471	1.95	2.20	2.40
921	.70	.95	1.15	1475	2.85	3.10	3.30
922	1.65	1.90	2.10	1476	2.85	3.10	3.30
923	2.30	2.60	2.75	2371	1.90	2.15	2.35
924	2.00	2.25	2.45	2469	3.20	3.65	4.10
929	1.95	2.20	2.40	2471	2.75	3.20	3.65
930	1.95	2.20	2.40	2669	4.40	4.85	5.30
949	2.00	2.30	2.45	2671	4.00	4.40	4.85
950	2.00	2.30	2.45	2846	3.85	4.30	4.75
951	1.05	1.35	1.55	2847	4.15	4.65	4.05
952	1.95	2.20	2.40	2852	3.30	3.75	4.20
960	1.00	1.30	1.45	2853	3.60	4.05	4.50
962	2.00	2.30	2.45	2864	2.75	3.20	3.65
969	2.15	2.45	2.60	2865	3.05	3.50	3.95
970	2.15	2.45	2.60	2872	3.30	3.75	4.20
971	1.25	1.50	1.70	2873	3.60	4.05	4.50
980	1.50	1.75	1.95	9826	1.95	2.25	2.40
981	1.40	1.70	1.85	9836	1.90	2.20	2.35
982	1.70	1.95	2.15	9896	2.15	2.40	2.60
983	1.65	1.90	2.10	9906	2.20	2.45	2.65
984	1.25	1.55	1.75				

The above Prices do not include Glassware or Lamps.

## RECEPTACLES, SURFACE

### SURFACE RECEPTACLES—STANDARD

### Edison Base

Description		Edison Base	Universal	Price
		All Keyless	Number	
Pony Cleat	Receptacle Side Screws.	No S. H. Groove....	50715	\$.15
	Round	Center	9171	.20
Standard Cleat	Side	"	9402	.30
	"	With	4013	.40
Oblong	"	"	58300	.55
Concealed	"	"	4001	.55
	Round Base		50744	.55
Oblong Receptacle	for Wood Molding	With Removable Ring...	4026	.65
Miniature or Candelabra	Small Type.....		9445-6	.20
	Extended		366-7	.25
Mogul P & S. 520, Arrow 5012, GE 1194, Hubbell 3464, Weber 1422				.85

### T-SLOT SURFACE RECEPTACLES

T-SLOT SURFACE RECEPT TABLES		Price
10 A. Small T Slot Concealed	2 Wire	\$ .50
10 A. Small T Slot Cleat	2 "	.50
10 A. Small For Wood Molding	2 "	.50
10 A. Polarized Cleat	2 "	.65
10 A. Polarized Concealed	2 "	.65
10 A. Polarized Wood Molding	2 "	.70
10 A. Fielding Receptacle	2 "	.55
10 A. Polarized Concealed	3 "	.85
20 A. Polarized Cleat	2 "	.75
20 A. Polarized Concealed	2 "	.75
20 A. Polarized Wood Molding	2 "	.85
20 A. Polarized Concealed	3 "	2.00

### BOX RECEPTACLES

### T Slot Type

1 Slot Type		Price
10 Amp.	Receptacle.....	\$.50
10 Amp.	".....	.50
10 Amp.	"..... with Covered Ter.....	.55
20 Amp.	"..... Polarized.....	.75
10 Amp.	3/4 Porcelain Single.....	.45
10 Amp.	3/4 " Duplex.....	.50
10 Amp.	4 " Single.....	.60
10 Amp.	4 " Duplex.....	.70

### Edison Base Type

Edison Base Type		Price
With Metal Cover for 3 1/4" Box		\$ .25
" " " " 4" Box		.30
" " " " 3 1/4" " Weatherproof		.30
" " " " 4" " "		.35
All Porcelain for 3 1/4" Box		.40
" " " " 4" Box		.50
Brass Covered Keyless for 3 1/4" x 4" Box		1.00
Brass Covered Pull Chain for 3 1/4" x 4" Box		2.00







### Sockets, Heavy Duty

## Price Each

Benco Keyless Socket	with Clamp Ring #4700 to 4703 Medium Base	Price Each
	— without " "	\$1.25
	— " " 4712 to 4715 " "	1.10
— Pull	— " " 4706 to 4709 " "	2.00
Benco Keyless Socket	Copper or Alum. #4200-1-4-5 & 4335 & 7	.80
	Brass #4202-4203-4336	.90
— Pull	4207-8 4225-26 4236-37 Brass, Copper or Alum.	1.55
— Mogul	Copper Clad #4210-4297	2.25
Benco Threaded Holders Only		2 1/2 3 1/2 4"
Polished Alum. Weatherp	— #4215 & 4217	\$.30 \$.55 \$.90
Copper	— 4370-72 & 73	.35 .55 .90
Brushed Brass	— 4377-79 & 80	.35 .55 .90

**With      With**

	Without Yoke	$\frac{3}{8}$ or $\frac{1}{2}$ Iron Yoke	$\frac{3}{8}$ or $\frac{1}{2}$ Alum. Yoke
One Piece Socket with Lamp Grip.....	\$1.00	\$1.25	\$1.50
Two Piece Socket with Lamp Grip.....	1.20	1.45	1.70

**With Type X or XR Fitting**

Medium Base Keyless	Tapped $\frac{3}{8}$ - $\frac{1}{2}$ 34 No. 4605-1609 4650-51 & 65...	\$1.20
Self-Locking $\frac{3}{8}$ - $\frac{1}{2}$ 34 No. 4528 29-30 32-33...		1.60
Shock Absorb. $\frac{3}{8}$ - $\frac{1}{2}$ 34 No. 4676 77-78 80-81...		1.45
Shock Absorb. Self Lock No. 4548 49-50 52-53...		2.00
Pull Chain No. 4534-35 & 4660 61-67...		2.10
Mogul Base Keyless Shock Absorbing No. 4670 71-72...		2.00
Not Shock Absorbing No. 4656-57 4666...		1.65
If X or XR Fitting not supplied on above sockets deduct...		.45

<b>Plates &amp; Boxes Extra</b>		<b>Price</b>
Square Handle Porcelain Cup—Sgl. Pole.....		\$ .35
" " " Dble.....		1.00
" " " 3 Point.....		.50
" " " 4 ".....		3.15
Composition Cup—Sgl. Pole.....		.85
" " " Dble.....		1.35
" " " 3 Point.....		1.00
" " " 4 ".....		3.45
Round Handle Porcelain Cup—Sgl. ....		.35
" " " Dble.....		1.00
" " " 3 Point.....		.50
" " " 4 ".....		3.15
Composition Cup—Sgle.....		1.10
" " " Dble.....		1.50
" " " 3 Point.....		1.40
" " " 4 ".....		3.45
New 2 Circuit Type Dugle-Twin-Duplex, Multoggle, etc. 2 .....		1.15
" " " Triple-Triple-Tripex Multoggle, 3 .....		1.50
" " " Single & 3-Way Type.....		1.35
Lock Type Porcelain Cup—Sgl. Pole.....		1.30
" " " Dble.....		1.85
" " " 3 Point.....		1.50
" " " 4 ".....		3.85
EXTRAS—For Luminous Tip add for Each Handle.....		.40
" " " For Glo Guide Handle Switches add for Each.....		1.00

### With Plates

Bryant 2957-2979	One Tumb. Sw.—One	Flush Recep. Brass or Temp. P.	\$2.00
2959	"	Pilot Light .060 Plate	3.00
H & H 8887	"	Bulls Eye .060	3.25
8809	"	Recept. Bulls Eye Solid	5.45
8805		Duplex	5.75
H & H 8974	One tumb. sw. and one Con. Outlet		2.00
Hubbell 7163 & 7164	Switch Tap Combination No Plate		2.15

## Price

	1	2	3	4
	Gang	Gang	Gang	Gang
Stamped Brass Sprayed Finish .040 Thick . . . . .	\$ .15	\$ .30	\$ .45	\$1.35
"    "    Brush Brass .040 " . . . . .	.20	.40	.60	1.55
"    "    Sprayed .060 " . . . . .	.20	.40	.60	1.70
"    "    Brush Brass .060 " . . . . .	.30	.60	.90	1.85
Bakelite or Composition Molded . . . . .	.20	.40	.60	.80
Twist & Triple Struck Up Plates . . . . .		.30	.30	
Solid Brass . . . . .		.50	.50	
Hubbell Bakelite Screwless Plates . . . . .	.60	1.10	1.60	
Bryant DeLuxe Wood Inlaid any Finish . . . . .	2.35	4.10	6.60	
All Metal . . . . .	.85	1.50	2.10	
Guth Porcelain Enamel Plates . . . . .	.30	.65	1.00	
Glass Mirror Plates . . . . .	1.00	1.75	2.50	3.25
Combination Switch & Receptacle Plate Molded . . . . .				.40
Brass .040 thick . . . . .				.50

<b>Plate &amp; Boxes Extra</b>		<b>Price</b>
Standard Shallow Type Porcelain Cup—Single Pole.....	Double .....	\$ .38 1.16
" " " " " "	3 Point .....	.50 3.17
Deep Type Porcelain Cup—Single Pole.....	Double .....	.77 1.11
" " " " " "	3 Point .....	1.11 3.17
Special Composition Cup—Single Pole.....	Double .....	1.11 1.56
" " " " " "	3 Point .....	1.56 3.17
Lock Type Porcelain Cup—Single Pole.....	Double .....	1.44 1.88
" " " " " "	3 Point .....	1.88 3.88
Electroliter Non-Indicating.....		1.97
Indicating.....		1.97
Extra for Luminous Button Add Per Switch.....		.40

### With Plates

Bryant	117	D. P. Indicat. Switch Flush Receptacle .060 Plate.....	\$2.00
	413	One Push Switch-Bulls Eye and Solid Plate.....	4.25
	518	Disap. Door Recp. Bulls Eye—Solid Plate.....	7.50
	465	D. P. Flush Switch & Pilot Lamp .060 Plate.....	3.50
	467	Flush Switch—Flush Recep.—Bulls Eye—Solid Plate.....	5.75
H & H	3752	Duplex.....	6.25
	3759	Bulls Eye—Solid Plate.....	4.25
	8810	Duplex Recep. Solid Plate.....	5.50
		Single.....	5.30

**Price**

	1	2	3	4
Description	Gang	Gang	Gang	Gang
Stamped Brass Sprayed Finish .040 Thick	\$ .15	\$ .30	\$ .45	\$1.35
" " Brush Brass .040	20	.40	.60	1.55
" " Sprayed .060	20	.40	.60	1.70
" " Brush Brass .060	30	.60	.90	1.85
Bakelite or Composition	20	.40	.60	.80
Hubbell Bakelite Screwless	.60	1.10	1.55	...
Bryant DeLuxe Plates Wood Inlaid	2.35	4.10	6.60	...
" " All Metal	.85	1.50	2.10	...
Guth Porcelain Plates	30	.65	1.00	...
Glass Mirror Plates	1.00	1.75	2.50	3.25
Combination Push & Receptacle Plates .060 Brass	...	...	...	.50
" " " " Molded	...	...	...	.40
" " " " Guth Enameled	...	...	...	.65
" " " " Mirror Glass	...	...	...	1.75

METAL COVERED SNAP SWITCHES							
Poles	Volts	Type	Size	5 Amp.	10 Amp.	20 Amp.	30 Amp.
Single	125	Non-Indicating.....	Pony	\$ .35	....	....	....
"	"	Indicating.....	"	.40	....	....	....
"	"	Non-Indicating.....	Standard	.55	\$ .75	\$1.45	\$2.10
"	"	Indicating.....	"	.65	.85	1.60	2.20
Double	250	Non-Indicating.....	"	.90	1.10	2.20	2.55
"	"	Indicating.....	"	1.05	1.15	2.40	2.70
Triple	"	Non-Indicating.....	"	....	2.80	3.60	4.35
"	"	Indicating.....	"	....	3.00	3.75	4.50
3-Way	125	Non-Indicating.....	"	.90	1.25	2.25	2.70
4-Way	250	Non-Indicating.....	"	1.30	2.85	6.00	....
Electroliner	"	Non-Indicat. 110V.....	"	1.35	1.35	2.10	....
"	"	Indicating 110V.....	"	1.50	1.50	2.25	....

Poles	Volts	Type	Size	5 Amp.	10 Amp.	20 Amp.	30 Amp.
Single	125	Non-Indicating.....	Pony	\$ .50	....	....	....
"	125	Indicating.....	"	.55	....	....	....
"	125	Non-Indicating.....	Standard	.65	\$ .85	\$1.60	\$2.40
"	125	Indicating.....	"	.70	.95	1.75	2.55
Double	250	Non-Indicating.....	"	.95	1.20	2.45	2.85
"	250	Indicating.....	"	1.10	1.35	2.60	3.00
3-Way	125	Non-Indicating.....	"	.95	1.35	2.60	3.00
4-Way	125	Non-Indicating.....	"	1.50	3.00	....	....
Electrolit		.....	"	1.55	1.55	....	....
		Indicating.....	"	1.70	1.70	....	....

		Metal Single Pole	Double Pole	3 Point	4 Point
125-250 Volt					
5 Amp. Closed or Slott.	Base.....	\$ .35	\$ .85	\$ .80	
10		.80	1.10	1.25	\$1.40

Metal Covered                      All Porcelain

	5 Amp. 125 Volts	Indicating	Non-Indicating	Indicating	Non-Indicating
Single Pole.....	\$ .65		\$ .60	\$ .75	\$ .70
Double ".....	1.10		1.05	1.20	1.15
Three Point.....	1.10			1.20	.....
Electroliner.....	1.40		1.40	.....	.....

Handles—Standard Type Each	\$ .12	—Ratchet Type.....	\$ .18
Bases—Porcelain 5 Amp.	\$ .12	—10 Amp.	\$ .15
		—20 Amp.....	.30
Covers—10 Amp & Under Metal	\$ .15	—Porcelain.....	.20
Over 10 Amp.	.30		.30

### PULL CORD SWITCHES

Complete With 1/8 Cap, Small Socket Type

Complete	With $\frac{1}{8}$ Female Brass Cap	Price
Ceiling—Bottom Pull Complete.		\$1.00
Wall—Side Pull		1.00
Rosette—Side Pull		1.00
Fixture—Bottom Pull		1.25
Deduct for Base only without $\frac{1}{8}$ Brass Cap.		.10
Add for $\frac{1}{8}$ Brass Cap on any of above Switches.		.20
" " Small Concealed Base of above Switches.		.10
" " Cleat		.30
" " Base to Fit $3\frac{1}{4}$ Box of above Switches.		.55
" " Angle Base		1.10
" " Wood Moulding Base of above Switches.		.30
" " Angle Base		.30

**HEAVY DUTY PULL CORD SWITCHES, METAL COVER**  
With 8 Feet Heavy Cord

S.P. with Small Pore.	Slotted or Solid B.....	\$1.68
D.P.	" " " " " "	1.80
3 Pole	" " " " " "	1.80

These switches can be furnished with side or bottom open, at same price

## ELECTRICAL CONTRACTING

### TYPE "O" PULL SWITCHES

For Ceiling Fixtures or Ceiling Fans

## CANOPY SWITCHES

**LEVOLIER PULL SWITCHES**  
**McGill Co.**

### PENDANT SWITCHES

With Brass Pendant Cap

## FEED THROUGH SWITCHES

## DOOR SWITCHES

### DOOR SWITCHES & OPENERS

Edwards—commonly used types

**Partrick & Wilkins commonly used types**

## SWITCHES, KNIFE, ENTRANCE & PANEL

**ENTRANCE & PANEL SWITCHES**  
30 Amp, 125 Volts, Plug Fused

### BABY KNIFE SWITCHES

**TYPE "C" KNIFE SWITCHES**  
Slate Base Front Connected

July, 1929

**SWITCHES, RESIDENCE, METER  
SERVICE, INDUSTRIAL, ETC.**

### SMALL SERVICE ENTRANCE SWITCHES

#### 30 Amp. "Square D" Switches Residence Type

Numbers	Volts	Description	2 Pole	3 Pole
97211-97311	125	For Plug Fuse Solid Neut. ....	\$1.65	\$2.50
99211-99311	125	" " Neut. Fused .....	1.65	3.00
78211-78311	125	" " Meter Test .....	2.55	4.10
1211	125	Porc. Entr. Switch .....	1.80	.....
97251-97351	250	Encl. Fused Solid Neut. ....	1.65	3.20
99251-99351	250	" " Fused Neut. ....	2.50	4.35

## METER SERVICE SWITCHES

### "Square D" Accessible Main Fuses Without End Walls

Amps.	Poles	Fused		Neutral	Meter		Non-Meter	
		For	Plug		Test	Type	Number	Price
30	2	2	Plug	Fused	30211	\$ 4.00	10211	\$ 3.65
30	2	1	"	Solid	30231	3.65	10231	3.35
30	3	2	"	"	30331	4.50	10331	3.95
30	3	2	"	Unfused	30381	4.85	10381	4.85
30	2	2	Enc.	Fused	30251	4.85	10251	4.55
30	2	1	"	Solid	30271	4.20	10271	3.85
30	3	2	"	Unfused	30361	5.40	10361	5.65
30	3	2	"	Solid	30371	4.85	10371	4.55
60	2	2	"	Fused	30252	16.80	10252	15.95
60	2	1	"	Solid	30272	15.95	10272	15.05
60	3	2	"	Unfused	30362	21.65	10362	20.55
60	3	2	"	Solid	30372	17.70	10372	16.80
100	2	2	"	Fused	30253	25.60	10253	24.75
100	2	1	"	Solid	30273	25.60	10273	23.85
100	3	2	"	Unfused	30383	30.90	10383	29.35
100	3	2	"	Solid	30373	27.40	10373	25.60

## METER SERVICE SWITCHES

### **"Square D" Main Fuses Sealed Without End Walls**

Square D Main Fuses Sealed Without End Wires									
Amps. Poles		Fused For		Meter			Non-Meter		
				Neutral	Number	Price	Number	Price	
				Test Type			Test Type		
30	2	2	Plug	Fused	36211	\$ 3.25	16211	\$ 2.85	
30	2	2	"	Solid	36231	3.25	16231	2.85	
30	3	2	"	"	36331	3.45	16331	3.00	
30	3	2	"	Unfused	36381	3.45	16381	3.45	
30	2	2	Enc.	Fused	36251	3.80	16251	3.40	
30	2	2	"	Solid	36271	3.50	16271	3.15	
30	3	2	"	Unfused	36361	4.00	16361	4.30	
30	3	2	"	Solid	36371	4.00	16371	3.55	
60	2	2	"	Fused	36252	15.05	16252	14.20	
60	2	2	"	Solid	36272	14.15	16272	13.30	
60	3	2	"	Unfused	36362	19.00	16362	17.90	
60	3	2	"	Solid	36372	15.95	16372	15.05	
100	2	2	"	Fused	36253	23.85	16253	23.00	
100	2	2	"	Solid	36273	23.85	16273	22.10	
100	3	2	"	Unfused	36383	26.50	16383	24.75	
100	3	2	"	Solid	36373	25.60	16373	23.85	

## MISCELLANEOUS

Enclosed Double Branch Cutout No. 35211—30 Amp.	125 Volts.....	\$2.35
Fused Plug Receptacle.....	5021—30 " 125 " .....	2.20
Cartridge " 5001—30 " 250 " .....		5.65
Cabinet Porcelain Fuse Block " 1021—30 " 125 " .....		1.25

## UNIVERSAL METER SERVICE SWITCHES

### "Square D" Meter Service Types

Single Type		All 30 Amp. 125 Volt Single Phase & DC without end walls	Ganging Type	
No.	Price		No.	Price
No. 32211 or 33211	\$3.45		No. 12211-13211	\$3.85
No. 32311	3.75		No. 12311	4.15
No. 34211	4.30		No. 14311	5.25
No. 34311	4.85			

## METER SERVICE SWITCHES

### "Square D" Without End Walls Live & Dead Fuse Type

## METER TESTING

Number	Amps.	Pole	Fused	Neutral	Description	Price
55211	30	2	1 Plug	Solid	Single Type Fuse Dead.....	\$ 2.20
58211	30	2	2 "	Fused	" " " Live.....	2.70
SK-916	30	2	1 "	Solid	" " " ".....	2.70
55311	30	3	2 "	Solid	" " " Dead.....	3.45
57311	30	3	2 "	"	" " " Live.....	3.45
15211	30	2	1 "	"	Gang Type Fuse Dead.....	2.60
18211	30	2	1 "	Fused	" " " Live.....	3.10
30231	30	2	1 "	Solid	Gang Type Acces. M. Fuses	4.05
39331	30	3	2 "	"	Gang Type Acces. " Fuses	4.85
15311	30	3	2 "	Solid	" " " Dead.....	3.85
17311	30	3	2 "	"	" " " Live.....	3.85
58251	30	2	2 Cart.	Fused	Extra for End Live.....	.30
26251	30	2	2 "	"	Cartridge Fuse Live.....	3.05
57351	30	3	2 "	Solid	" " " Dead.....	3.75
28252	60	2	2 "	Fused	" " " Live.....	3.75
27312	60	3	2 "	Solid	" " " ".....	8.45
14312	60	3	2 "	"	" " " ".....	8.90
28253	100	2	2 "	Fused	" " " Dead.....	19.80
27313	100	3	2 "	Solid	" " " Live.....	15.05
14313	100	3	2 "	"	" " " ".....	15.90
					" " " Dead.....	27.35



## Prest-O-Lite Is Unusually Convenient

... easy to handle on a pole,  
underground, in the trans-  
former room, or in the shop...

easy to work in corners and close  
quarters... easy to regulate to the exact heat  
required... no pumping, no preheating, no  
waste of fuel between jobs.

Electrical Contractors and Utility Companies  
prefer Prest-O-Lite blow-torches because  
they speed up the work and do a better  
job at lower cost.

Ask your local Prest-O-Lite Gas Distrib-  
utor to demonstrate this equipment for  
you or write us for complete informa-  
tion.



Prest-O-Lite is  
available every-  
where. Anyone  
of 15,000 Prest-  
O-Lite Exchange  
Stations can  
supply you  
quickly with a  
full tank.

**Prest-O-Lite  
GAS**

### THE PREST-O-LITE COMPANY, Inc.

Unit of Union Carbide and Carbon Corporation

UCC

NEW YORK: Carbide and Carbon Building  
SAN FRANCISCO: Adam Grant Building  
IN CANADA: The Prest-O-Lite Company  
of Canada, Ltd., Ontario





No. 3000  
**Sterling Flood-O-Lite**  
Interior and exterior. Uses 250 and 400 Watt Type "C" G-30 lamps. Beam control 0 to 90 degrees.



No. 5240  
**Sterling Flood-O-Lite**  
For exterior Flood Lighting. Adjustable for 300 to 1000 Watt Type "C" T-8 lamps and beam spread of 0 to 90 degrees.



## Sterling

### Lighting Equipment

POPULAR and profitable with Contractors everywhere — consequently sales on Sterling Lighting Equipment are growing by leaps and bounds.

And Sterling performance is the secret. Today's demands for the highest possible efficiency and best service has won for Sterling a place of distinction in the lighting equipment field.

Reflectors for Show Windows, Display Cases, Cove and General Interior Lighting. Flood-O-Lites for interior and exterior Flood and Spot Lighting. Catalog on request.

### Reflector & Illuminating Co.

Manufacturers & Engineers

1415 Jackson Blvd. Chicago, U. S. A.

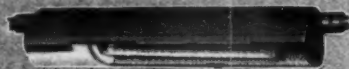
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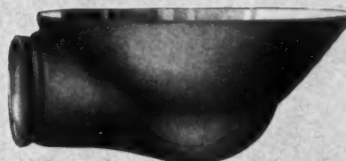
No. 253  
**Sterling Stipple Reflector**  
For efficient illumination in Show Windows. Uses 100, 150 and 200 Watt Mazda "C" Lamps.



No. 231  
**Sterling Special Reflector**  
For Show Windows of low, shallow type or Island Windows. Uses 100 Watt Type "A" Inside Frosted Lamps.



No. 650  
**Sterling Kas-Lite Jr.**  
For display case lighting. Uses new T-6 1/2 Intermediate screw base 35 Watt Mazda Tubular Lamp.



No. 239  
**Sterling Cove Reflector**  
For cove lighting and other special installations. Uses 100 Watt Type "A" Inside Frosted Lamp.



No. 3022  
**Sterling Flood-O-Lite Jr.**  
For interior flood and spot lighting. Equipped with Sterling Reflector. Furnished complete.



No. 256  
**Sterling Industrial Reflector**  
Distributing type, direct or indirect lighting. Uses 100, 150 or 200 Watt Lamps.

# 5-inch Offsets in 3-inch pipe



(Patent applied for)

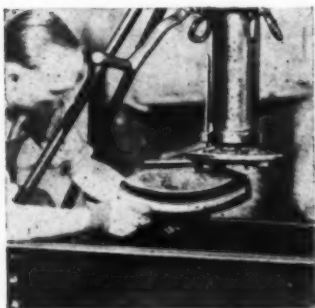
## in 15 Minutes



*Weights only 350 pounds and easily moved from one job to another.*

***Bends all sizes of Large Pipe without marring or buckling the Conduit . . . . .***

Every electrical contractor should immediately investigate the new Franklin Pipe Bending Jack . . . The jack is portable and may be moved easily from one job to another . . . Startling savings in time are effected . . . . .



*Various sizes of shoes may be easily slipped into the grooved head of the jack.*

***One man does the Job!***

And he does it better and faster. The three-inch conduits illustrated above were offset five inches in 19 inches of pipe in 15 minutes . . . The bender consists of an inverted ratchet jack tied to frame of steel truck. Pipe is placed under shoe and jack is operated to limit of preset gauge.

*Write today for descriptive folder or order today.*

**WHITE CITY ELECTRIC CO.**  
**14 N. Franklin St.**  
**CHICAGO ILLINOIS**

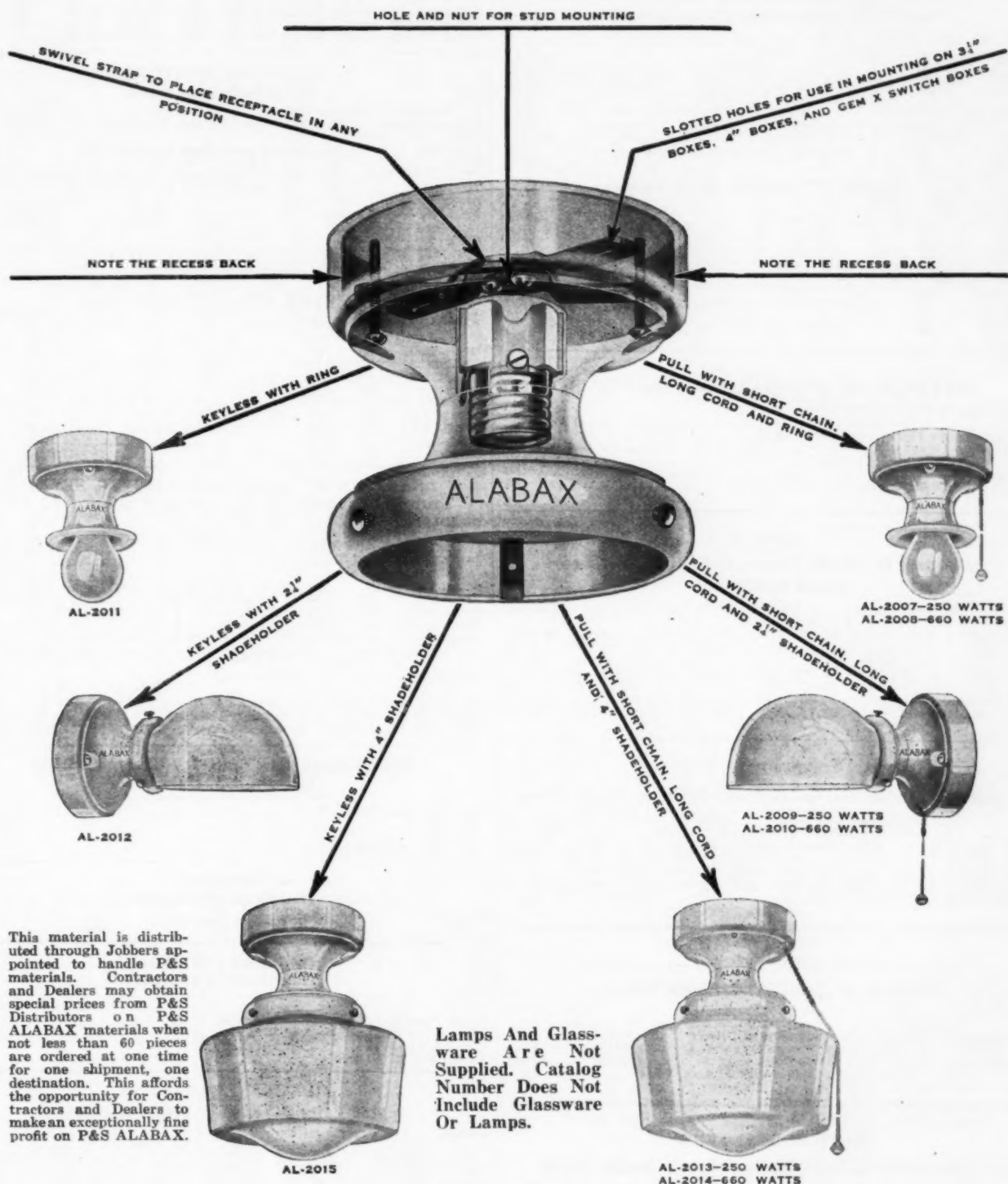
**P&S**

New **ALABAX** Receptacles

OR

**BEAM LIGHTS**

**P&S**



This material is distributed through Jobbers appointed to handle P&S materials. Contractors and Dealers may obtain special prices from P&S Distributors on P&S ALABAX materials when not less than 60 pieces are ordered at one time for one shipment, one destination. This affords the opportunity for Contractors and Dealers to make an exceptionally fine profit on P&S ALABAX.

Lamps And Glassware Are Not Supplied. Catalog Number Does Not Include Glassware Or Lamps.

Manufactured by

**PASS & SEYMOUR, Inc.**

SOLVAY STATION, SYRACUSE, N. Y.

NEW YORK  
71-73 Murray St.

CHICAGO  
605 W. Washington St.



## METER SERVICE SWITCHES—Continued

## NON-METER TEST TYPE

Number	Amps.	Pole	Fused	Neutral	Description	Price
26311	30	3	2 Plug	Solid	Plug Type Fuse Dead.....	\$ 2.40
26351	30	3	2 Cart.	"	Cart. Type Fuse Dead.....	3.75
SK-615	30	3	2 Plug	Switched	Plug Type Fuse Dead.....	4.30
SK-659	30	3	2 Cart.	"	Cart. Type Fuse Dead.....	4.30
SK-660	60	3	2	"	Cart. Type Fuse Dead.....	11.70
SK-674	100	3	2	"	Cart. Type Fuse Dead.....	19.20

## POLYPHASE METER SERVICE SWITCHES

## "Square D" Accessible Main Fuse Type

## METER TEST TYPE

Number	Amps.	Pole	Fused	Price
30391	30	3	3 Cart.....	\$ 9.90
30392	60	3	3 ".....	20.35
30393	100	3	3 ".....	30.00

## NON METER TEST

Number	Amps.	Pole	Fused	Price
10391	30	3	3 Cart.....	\$ 9.30
10392	60	3	3 ".....	18.60
10393	100	3	3 ".....	28.25

## "Square D" Sealable Main Fuses

## METER TEST TYPE

Number	Amps.	Pole	Fused	Price
36351	30	3	3 Cart.....	\$ 9.20
36352	60	3	3 ".....	17.60
36393	100	3	3 ".....	26.50

## NON METER TEST

Number	Amps.	Pole	Fused	Price
SK-671	30	3	3 Cart.....	\$ 4.30
SK-672	60	3	3 ".....	11.70
SK-673	100	3	3 ".....	19.20

## FITTINGS FOR STANDARDIZED SWITCHES

	Price
End Walls for 30 Amp. Switches.....	\$ .30
60 & 100 Amp. Switches.....	.80
Trough Closing Plates No. 20533 & 34.....	.10
Connecting Trough No. 20733—3 1/4" Long.....	.45
20738—8 1/2".....	.80
Universal End Wall & Shutters.....	.30
Meter Shutter only No. 24358.....	.15

## TYPE C

"Square D" Single Throw, Industrial Switches  
Quick Break Only

250 Volts Fusible				250V. DC & 500V. AC Fused & Unfused			
Amps.	2 Pole	3 Pole	Price	Amps.	2 Pole	3 Pole	Price
30	#85251 \$ 3.20	#85351 \$5.20		30	500 Volt Fused	#46341	\$ 8.65
60	#46252 \$ 8.20	#46352 \$10.00		60	#41242 \$ 8.20	#41342	8.65
60	Solid Neutral	#47312 9.10		60	500 Volt Fused	#46342	10.95
100	#45255 12.75	#45355 15.50		100	#41243 \$10.95	#41343	12.30
100	Solid Neutral	#48313 14.60		100	500 Volt Fused	#46343	17.30
200	#46254 20.00	#46354 26.40		200	#41244 25.50	#41344	22.75
200	Solid Neutral	#47314 22.75		200	500 Volt Fused	#46344	32.80

## TYPE A

## "Square D", Industrial Quick Make &amp; Break, Single Throw

250 Volts Fusible				250-500 & 600 Volts Unfused			
Amps.	2 Pole	3 Pole	Price	Amps.	2 Pole	3 Pole	Price
30	#80251 \$10.90	#80351 \$12.75		30-60	#81252 \$ 9.55	#81352	\$11.40
60	#86252 13.65	#86352 17.30		30-60	#81242 11.85	#81342	14.60
100	#86253 20.90	#86353 27.30		100	#81243 20.00	#81343	21.85
200	#86254 32.75	#86354 36.40		200	#81244 25.50	#81344	30.95
x60 Amp. Sw. with 30 Amp. Spacing							(x—250 Volts only).

## 30 AMP. TYPE C

## "Square D", Industrial, Single Throw

250 Volts			Single Throw		
No.	2 Pole	Description	No.	3 Pole	
83251	\$3.20	Quick Make & Break	83351	\$ 5.20	
91251	2.65	Not Quick Break	91351	4.00	
x90251	7.75	Quick Break Only	x90351	10.00	
(x 60 Amp. Switches with 30 Amp. Clips).					

## MOTOR STARTERS

## "Square D", Quick Make &amp; Break, Single Throw

Numbers & Types		Amps.	Volts	2 Pole	3 Pole	4 Pole
76251-351-451	Cover Control.....	30	250 V.	\$15.50	\$16.40	\$22.75
76352-76452	".....	60	250 V.	22.75	31.75	
76341-76441	".....	30	500-600 V.	22.75	31.75	
76342	".....	60	500-600 V.	32.75		
69251-351-451	without Cover Cont..	30	250 V.	13.65	14.60	20.95
69352-69452	".....	60	250 V.	20.95	30.00	
69341-69441	".....	30	500-600 V.	20.95	30.00	
69342	".....	60	500-600 V.	31.00		
75251-351	Time Protective.....	30	250 V.	6.40	6.85	
75341 & SK2054	Time Protective...	30	500-600 V.	11.80	13.65	
No. 98251	For Small AC & DC Motors up to 3/4 H. P. 220 Volts AC..					\$1.85

## TYPE "C" SWITCHES

## Trumbull-Vanderpool Single Throw Industrial Type

250 Volts DC or AC Fusible				500-600 Volts AC Fusible			
Amps.	2 Pole	3 Pole	Price	Amps.	2 Pole	3 Pole	Price
30 A	#4321 \$ 2.90	#4331 \$ 4.35		30 A	#4325 \$ 8.55	#4335 \$ 9.00	
30 A	4322 3.15	4332 5.15		60 A	4625 9.90	4635 10.80	
60 A	4622 8.10	4632 9.90		100 A	4125 13.20	4135 17.10	
100 A	4122 12.60	4132 15.30		200 A	4225 26.60	4235 32.40	
200 A	4222 19.80	4232 26.10		400 A	4425 59.75	4435 74.70	
400 A	4422 44.80	4432 61.50					
125-250 Volts—Solid Neutral				250 DC or 500-600 AC Unfused			
Amps.	3 Pole	4 Pole	Price	Amps.	2 Pole	3 Pole	Price
30 A	#04332 \$ 6.70	#04342 \$ 8.10		30 A	#41322 \$ 3.15	#41332 \$ 4.05	
60 A	04632 9.00	04642 11.25		60 A	41325 7.65	41335 8.10	
100 A	04132 14.40	04142 20.25		100 A	41122 10.80	41132 12.15	
200 A	04232 22.50	04242 31.50		200 A	41122 18.90	41232 22.50	
400 A	04432 58.00	04442 74.50		400 A	41422 36.50	41432 49.80	

## ENTRANCE SWITCHES

## Trumbull-Vanderpool

Numbers	Amps.	Volts	Description	2 Pole	3 Pole
77 Light Duty	30	125	One Plug Fuse One Blade.....	\$ 1.65	
73021	30	125	".....	1.65	
7321-7331	30	125	Two & Three Blades & Fuses..	1.65	\$ 2.90
07331	30	125	2 Fuses—2 Blades.....		2.25
07322	30	250	1 Cartridge Fuse—1 Blade.....	1.85	
7322-7332	30	250	2 & 3 Cartridge Fuses 2 & 3 Blades	2.50	4.30
07332	30	250	".....		3.25
7422-7432	30	250	Unfused 2 & 3 Blades.....	2.35	4.05
7622-7632	60	250	2 & 3 Fuses—2 & 3 Blades.....	6.15	7.15
07632	60	250	2 Blades 2 Fuses.....		6.85
7122-7132	100	250	2 & 3 Fuses—2 & 3 Blades.....	9.40	11.55
07132	100	250	2 Blades 2 Fuses.....		10.90

## METER SERVICE SWITCHES

## Trumbull-Vanderpool Live Fuse Type, Without End Walls

Numbers	Amps.	Volts	Description	2 Pole	3 Pole
50321-52331	30	125	For 1 & 2 Plug Fuses.....	\$ 2.75	\$ 3.45
50322-52332	30	125	" 2 Cartridge Fuses.....	3.15	3.75
50622-52632	60	250	" 2 ".....	8.50	8.90
50122-52132	100	250	" 2 ".....	15.10	16.00
(Dead Fuse Type)					
59321-59331	30	125	For 1 & 2 Plug Fuses.....	2.20	3.45
59322-59332	30	250	" 2 Cartridge Fuses.....	3.80	4.00
59622-59632	60	250	" 2 ".....	15.10	16.00
59122-59132	100	250	" 2 ".....	23.85	25.65

## "SAFE-LOCK" ACCESSIBLE METER SERVICE

## Trumbull-Vanderpool Test Type Without End Walls

Numbers	Amps.	Volts	Description	2 Pole	3 Pole
55321-55331	30	125	For 2 Plug Fuses.....	\$ 3.95	\$ 4.55
55322-550332	30	250	" 2 & 3 Cartridge Fuses.....	4.85	4.85
55622-550632	60	250	" ".....	16.80	17.70
55122-550132	100	250	" ".....	25.60	27.46
(Non-Test Type)					
56321-56331	30	125	For 2 Plug Fuses.....	3.65	3.95
56322-560332	30	250	" Cartridge Fuses.....	4.55	4.55
56622-560632	60	250	" ".....	15.95	16.85
56122-560132	100	250	" ".....	24.75	25.65

## POLYPHASE METER SERVICE SWITCHES

All 3 Pole	(Without Ends)	30 A	60 A	100 A
931-223-236-231	Sealed Fuse Meter Test Type	\$10.00	\$16.65	\$26.15
55332-632-132	Accessible Fuse Meter Test Type	10.90	20.35	30.00
58332-632-132	Accessible Fuse Non-Test Type	10.25	18.60	28.25

## UNIVERSAL METER SERVICE SWITCHES

## Trumbull-Vanderpool

	Price
#971-123 Without End Wall.....	\$3.45
973-333 ".....	3.75
972-123 ".....	4.30
975-333 & 979-333 No End Wall.....	4.85

## TROUGH

## Trumbull-Vanderpool

2-3 & 4"	5"	7"	9"	10"
45c	50c	62c	80c	88c

## SHUTTERS END WALLS

## Trumbull-Vanderpool

	30 Amp.	60 & 100 Amp.
Single Piece End Wall used with Cabinet.....	\$ .30	\$ .80
Shutters for Shutter Type End Wall.....	.15	.27
Conduit End Wall.....	.30	.80
Universal End Wall.....	.40	

## CURRENT BREAKERS

## 250 Volts DC &amp; AC. Fused Bottom

2 Pole		3 Pole		4 Pole	
Amps.	No.	Price	No.	Price	Price
30A.	CB3322	\$10.80	CB3332	\$12.60	CB3342 \$16.20
60 A.	CB3622	13.50	CB3632	17.10	CB3642 21.60
100 A.	CB3122	20.70	CB3132	27.00	CB3142 36.00
200 A.	CB3222	39.60	CB3232	49.50	CB3242 59.40
600 Volts DC & AC					
30 A.	CB3326	\$14.40	CB3336	\$18.00	CB3346 \$21.60
60 A.	CB3626	16.20	CB3636	18.90	CB3646 23.40
100 A.	CB3126	25.20	CB3136	28.80	CB3146 37.80
200 A.	CB3226	41.85	CB3236	57.60	CB3246 73.35
250 Volts DC or 500-600 Volts AC					
30 A.	CB4326	\$11.70	CB4336	\$14.40	CB4346 \$19.80
60 A.	CB4626	11.70	CB4636	14.40	CB4646 19.80
100 A.	CB4126	19.80	CB4136	21.60	CB4146 28.80
200 A.	CB4226	27.45	CB4236	33.75	CB4246 39.60
Unfused					

## MOTOR STARTING SWITCHES

## Trumbull-Vanderpoel

Series	Description	Amps	Volts	2 Pole	3 Pole	4 Pole
#771	Bantam Star, with Ther. Cut...	1/4 H.P.	110	\$ 3.25		
43000	With Plug Thermal Cutouts	30	220	8.10	\$9.90	\$12.80
43000	"	30	440		14.85	17.05
46000	Motor Starter — No Fuses	30	220	12.50	13.05	16.50
46000	"	30	440		19.50	23.40
46000	"	30	550		26.60	
46000	"	60	220	17.10	19.50	26.60
46000	"	60	440		24.15	
75000	Motor Starter with Cutouts	30	220	12.60	16.65	19.80
75000	"	30	550		21.60	25.65

## SMALL ENTRANCE SWITCHES

## Trumbull Electric Closed or Open Ends

Numbers	Amps	Volts	Fusing	2 Pole	3 Pole
5790 Midget	30	125	For 1 Plug Fuse	\$1.80	
5791-2-3-4 & 5893 & A	30	125	" Plug Fuses	1.80	\$3.45
13640-13641	30	250	No Fuse-Slate Base	2.70	4.15
13642-43 & 13743 & A	30	250	For Enclosed Fuses	2.70	4.80
13221-13321	30	250	"	3.40	5.15

## MAIN ENTRANCE SWITCHES

## Trumbull Electric Non Meter Test Solid End Wall

16361 to 16368	30	125-250	For Plug Fuses	\$2.75	\$3.45
16371 " 16378	30	"	" Enclosed Fuses	3.05	3.75
16381 " 16388	60	250	"	8.50	9.00
16391 " 16398	100	250	"	15.10	16.00

## METER SERVICE SWITCHES

## Trumbull Electric For Meters Open End

16300 to 16309	30	125-250	For Plug Fuses	\$ 2.75	\$ 3.45
16315 " 16324	30	"	" Enclosed Fuses	3.05	3.75
16330 " 16338	60	"	"	8.50	9.00
16341 " 16348	100	"	"	15.10	16.00

## ACCESSIBLE FUSE METER SWITCHES

## Trumbull Electric With Test Blades Without End Walls

18111	30	125	For 1 Plug Fuse	\$ 3.65	
18111-18311	30	125	" Plug Fuses	4.00	\$4.45
18121	30	125-250	" 1 Enclosed Fuse	4.20	
18221-18321	30	"	" Enclosed Fuses	4.85	4.85
18122-222-322	60	"	"	16.80	17.85
18123-223-323	100	"	"	25.60	27.50

## Without End Walls and Without Test Blades

19111	30	125	For 1 Plug Fuse	\$ 3.35	
19211-19311	30	125-250	" Plug Fuses	3.65	\$4.00
19121	30	"	" 1 Enclosed Fuse	3.85	
19221-19321	30	"	" Enclosed Fuses	4.55	4.55
19122-222-322	60	"	"	16.00	16.80
19123-223-323	100	"	"	24.75	25.65

## SEALED FUSE METER SWITCHES

## Trumbull Electric With Test Blades Without End Walls

15827	30	125	For 1 Plug Fuse	\$ 2.25	
28111-28311-28311	30	125	" Plug Fuses	3.25	\$ 3.45
28121	30	125	" 1 Enclosed Fuse	3.50	
28221-28321	30	125-250	" Enclosed Fuses	3.75	4.00
28122-28222-28322	60	"	"	15.10	16.00
28123-223-323	100	"	"	23.90	25.65

## UNIVERSAL METER SERVICE SWITCHES

## Trumbull Electric

#971-123	For Details See Trumbull Catalog	\$3.45	Less End Wall	
972-123	"	4.30	"	
973-333	"	3.75	"	
975-333	"	4.85	"	
979-333	"	4.85	"	

## END WALLS, SHUTTERS, TROUGHS

## Trumbull Electric

One Piece End Wall for 30 Amp. Switch, \$ .30	For 60 & 100 A. Switches, \$ .80
Shutter for " "	15 "
Troughs—2-3 & 4' \$ .37	5' \$ .41 6' \$ .44 7' \$ .52 8' \$ .55
Distribution Cutout Block—#5850—Less Fuses	1.10

## TYPE "A" SWITCHES

## Trumbull Electric Single Throw, Quick Make &amp; Break

Amps.	2 Pole	3 Pole	250 Volts Unfused	2 Pole	3 Pole
30	\$72221 \$10.80	\$72321 \$12.60	\$36221 \$ 9.45	\$36321 \$11.25	
60	\$72222 13.50	\$72322 17.10			
100	\$72223 20.70	\$72323 27.00			
200	\$72224 32.40	\$72324 36.00			
Amps.	2 Pole	3 Pole	250-500 Volts Unfused	2 Pole	3 Pole
30	\$72251 \$14.50	\$72351 \$18.00	\$36251 \$10.70	\$36351 \$13.95	
60	\$72252 16.40	\$72352 18.90	\$36252 10.70	\$36352 14.40	
100	\$72253 25.20	\$72353 28.80	\$36253 19.80	\$36353 21.60	
200	\$72254 39.60	\$72354 45.00	\$36254 25.25	\$36354 30.60	

## "R.M." &amp; TYPE "A" SMALL STARTING SWITCHES

## Trumbull Electric

250 V. 2 Position	2 Pole	3 Pole	2 Pole	3 Pole
94221	\$ 9.10	94321 \$10.35	94222 \$16.20	94322 \$18.90
94261	14.40	94361 16.20	94262 20.70	94362 23.40
110-550 Invers. Time	93261 10.80	93361 11.70		
250	83221 10.80	83321 13.05		
600 Snuff Arc	83261 14.85	83361 18.00		

## TYPE "C" SWITCHES

## Trumbull Electric Single Throw, Quick Break Only

Amps.	2 Pole	3 Pole	250 Volts Unfused	2 Pole	3 Pole
30	\$40221 \$ 5.40	\$40321 \$ 6.75	\$20221 \$ 4.95	\$20321 \$ 6.30	
60	\$40222 8.10	\$40322 9.90			
100	\$40223 12.60	\$40323 15.30			
200	\$40224 19.80	\$40324 26.10			
Amps.	2 Pole	3 Pole	250-500 Volts Unfused	2 Pole	3 Pole
30	\$40251 \$ 9.00	\$40351 \$ 8.55	\$20251 \$ 7.65	\$20351 \$ 8.10	
60	\$40252 9.90	\$40352 10.80	\$20252 8.10	\$20352 8.65	
100	\$40253 14.40	\$40353 17.10	\$20253 10.80	\$20353 12.15	
200	\$40254 28.80	\$40354 32.40	\$20254 18.90	\$20354 22.50	

## R. M. SAFETY SWITCHES

## Trumbull Electric, All 30 Amp.

Volts	Fused	Not Fused	Numbers	2 Pole	3 Pole	4 Pole
250-600 AC			46261-46361-46461	\$ 5.40	\$ 7.20	\$ 9.90
250 Volts	Fusable		92221-92321-92421	6.30	8.10	10.80
600 " AC			92261-92361	13.05	13.95	

## TYPE "A" MOTOR STARTING SWITCHES

## Trumbull Electric

Phase	Numbers	Cycle	110 Volt	220 Volt	440 Volt	550 Volt
Single	95211-21-51-61	60	\$22.25	\$22.25	\$25.20	\$26.80
	85211-21-51-61	25	22.25	22.80	30.45	31.60
3 Phase	96311-21-51-61	60	25.20	25.20	28.70	30.40
	86311-21-51-61	25	25.20	26.30	35.10	36.00
2 " 3 Wire	98311-21-51-61	60	26.30	26.30	31.60	34.30
	88311-21-51-61	25	26.30	28.30	37.00	38.70
" 4 "	99411-21-51-61	60	40.95	40.95	45.40	45.70
	89411-21-51-61	25	40.95	42.70	48.00	50.85

## TUMBLER SWITCHES

## Trumbull Electric

#2221	\$2.25	#2221E	\$3.85	#3221	\$1.60	#2361	\$6.00
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## SMALL 30 AMP. MIDGET &amp; TYPE "OO"

## Westinghouse Residence Type

Midget-Solid Neutral-1 Blade-1 Fuse	2 Pole	3 Pole
Type 00 Fusable For Plug Fuses 125-250 V.	#62613 \$1.65	#60969 1.85
" " Fusable Solid Neut. For Plug Fuses 125-250 Volts	#60091 1.75	#62328 2.70
" " Fusable Solid Neut. For Plug Fuses 3 Blades		#60962 3.00
" " Non-Fusable 2 Blades 250 Volt	#60990 2.55	#62352 2.70
" " Fusable For Cart. Fuses 250 Volt	#60989 2.45	#62365 4.00
" " Fusable For Cart. Fuses 250 Volt		#62363 4.30
" " Fusable For Cart. Fuses Solid Neut. Solid Neutral		#62351 3.15
Type WK-45 Fusable For Cart. Fuses 3 Blade 250 Volt		#62364 4.30
Type WK-45 Solid Neut. Cart. Fuses 250 V.		#545101 5.25
Type WK-45 Non-Fusable Cart. Fuses 250 V.		#545341 5.20
		#545001 4.15

## METER SERVICE SWITCHES

## Westinghouse Type "WK-54" Without End Walls

Amps.	Fused	Dead Fuse Type	Live Fuse Type
30	Plug	No. Price	No. Price
		61140 \$ 2.20	60224 \$ 2.70
30		61143 3.25	59441 2.70
30	Enclosed	61639 3.50	54371 3.05
30		61145 3.75	61144 4.00
60		61150 15.05	61151 16.00
100		61152 23.85	61153 25.50
			59463 15.05
			60232 15.95

## POLYPHASE METER SWITCHES

## Westinghouse "WK-54"

30 Amp.	No. 60997	With End Wall \$11.50	No. 60266	Less End Wall \$11.00
60	" 60998	" " 17.50	" 60267	" " 16.50
100	" 60999	" " 27.50	" 60268	" " 26.00

## ACCESSIBLE FUSE TYPE

## Westinghouse "WK-65" Without End Walls

Amps.	Fused	With Test Facilities	Without Test Facilities
30	Plug	No. Price	No. Price
		65000 \$ 3.65	65010 \$ 3.35
30		65001 3.95	65011 3.65
30	Enclosed	65055 4.20	65063 3.85
30		65003 4.85	65004 4.85
60		65005 16.80	65006 17.70
100		65007 25.60	65008 27.40
			65015 15.95
			65017 24.75
			65018 25.60

## POLYPHASE ACCESSIBLE METER SWITCHES

## Westinghouse "WK-65"

30 Amp.	3 Pole without End Wall	Meter Test Type	Non Meter Test Type
		No. 65100 \$11.20	No. 65103 \$10.55
60	" 3 " " "	No. 65101 20.35	No. 65104 18.60
100	" 3 " " "	No. 65102 30.00	No. 65105 28.15

## UNIVERSAL

## Westinghouse "WK-57" Meter Service Switches Without End Walls. Sealed Main Fuses.

All 30 Amp.	For Full Details See	#57924	\$3.45
125 Volt	Westinghouse	57925	4.65
Standardized	Switch Catalog #282	57926	3.75
		57928	5.20
		57931	5.20



## METER TRIMS—END WALLS—TROUGHS

## Westinghouse

	30 Amp.	60 & 100 Amp.
One Piece Meter Trims.....	\$0.30	\$0.80
Blank End Wall or Shutter Type End Wall.....	.30	.80
Shutter Type Meter Trim or Adaptor Trim.....	.15	.30
New Universal Trim with slide.....	.30	.....
Replacement Plate or Adapting Plate.....	.15	.....
Wiring Trough—2-3 & 4' long.....	\$0.40 5' \$ .45 6' \$ .50 7' \$ .55 8' \$ .60	.....
Fuse Receptacle #R57252.....	Less Fuses, \$1.25	.....

## QUICK BREAK ONLY

## Industrial Westinghouse "WK-62" Type "C"

Amps.	2 Pole	3 Pole	500 Volts AC Fusible	2 Pole	3 Pole
30.....	#62100 \$ 5.40	#62101 \$ 6.75	#62200 \$ 9.00	#62201 \$ 8.55	
60.....	#62103 8.10	#62104 9.90	#62203 9.40	#62204 10.80	
100.....	#62106 12.60	#62107 15.30	#62206 14.40	#62207 17.10	
200.....	#62109 19.80	#62110 26.10	#62209 28.80	#62210 32.40	
Amps.	2 Pole	3 Pole	600 Volts Non-Fusible	3 Pole	4 Pole
30.....	#62047 \$ 7.65	#62048 \$ 8.10			
60.....	#62013 8.10	#62014 8.55	#62054 \$13.05	#62055 \$18.90	
100.....	#62016 10.80	#62017 12.15	#62057 17.10	#62058 20.10	
200.....	#62019 18.90	#62020 22.50	#62060 27.90	#62061 44.10	

## Industrial Westinghouse "WK-66" Quick Make &amp; Break

Amps.	2 Pole	3 Pole	500 Volts AC Fusible	2 Pole	3 Pole
30.....	#66100 \$10.80	#66101 \$12.60	#66154 \$14.40	#66155 \$18.00	
60.....	#66103 13.50	#66104 17.10	#66157 16.20	#66158 18.90	
100.....	#66106 20.70	#66107 27.00	#66160 25.20	#66161 28.80	
200.....	#66109 32.40	#66110 36.00	#66163 39.60	#66164 45.00	
Amps.	2 Pole	3 Pole	600 Volts Non-Fusible	3 Pole	4 Pole
30.....	#66050 \$11.70	#66051 \$13.95	#66057 \$17.10	#66049 \$21.60	
60.....	#66053 19.80	#66054 21.60	#66057 24.75	#66058 32.40	
100.....	#66136 25.20	#66137 30.60	#66060 33.30	#66061 40.80	

## GENERAL UTILITY SWITCHES

## Noark Closed Ends

Numbers	Amps.	Volts	Fused For	2 Pole	3 Pole
8283.....	30	125	"	\$1.65	.....
8383-8483-8393.....	30	125	"	1.80	\$2.50
8683-8693.....	30	125	"	2.75	3.20

## METER SERVICE SWITCHES

## Noark Sealed Service SECO Without End Walls

Amps.	Fused For	No.	Price	No.	Price	No.	Price	No.	Price
30A Plug.....	9543	\$3.25	9523	\$4.45	8543	\$2.85	8523	\$3.00	
30A Enclosed.....	9563	3.75	9533	4.00	8563	3.40	8533	3.55	
30A Plug & Enc.....	9573	3.50			8573	3.15	8593	2.40	
60A Enclosed.....	9566	15.05	9536	15.95	8566	14.20	8536	15.05	
60A ".....	9576	14.15			8576	23.30			
100A ".....	9561	23.85	9531	25.60	8561	23.00	8531	23.85	

## Noark Accessible Service ACCO Without End Walls

Amps.	Fused For	No.	Price	No.	Price	No.	Price	No.	Price
30A Plug.....	9343	\$3.65			8343	\$3.35			
30A ".....	9353	3.95	9323	\$4.45	8353	3.65	8323	\$3.95	
30A Enclosed.....	9363	4.85	9333	4.85	8363	4.55	8333	4.55	
60A ".....	9366	16.80	9336	17.70	8366	15.95	8336	16.80	
100A ".....	9361	25.60	9331	27.40	8361	24.75	8331	25.60	

## Noark Universal Without End Plates

No.	Price	No.	Price	No.	Price	No.	Price
97123	.....	9723	4.65				
972123	.....	973333	4.30				
9753 & 9793	.....	975333-979333	5.20				

## Noark Doall Without End Plate

Amps.	Fused For	No.	Price	No.	Price	No.	Price
30A Plug.....	91323-911123	\$ 2.70	912333-914333	\$ 3.45			
30A Enclosed.....	923123-921223	3.05	922333-924333	3.75			
60A ".....	923126-921226	8.45	925336	8.90			
100A ".....	923121-921221	15.05	925331	15.95			

## NUBLADE SWITCHES

## Noark Fusible

Amps.	2 Pole	3 Pole	500 Volts AC Fusible	2 Pole	3 Pole
30.....	#8223 \$ 4.50	#8233 \$ 5.05	#8423 \$ 9.00	#8433 \$ 8.55	
60.....	#8226 8.10	#8236 9.90	#8426 9.90	#8436 10.80	
100.....	#8221 12.60	#8231 15.30	#8421 14.40	#8431 17.10	
200.....	#8222 19.80	#8232 26.10	#8422 28.80	#8432 32.40	
400.....	#8224 48.00	#8234 66.00			

## Noark Not-Fusible—Quick Break

Amps.	Volts	No.	Price	No.	Price	No.	Price
30.....	250	#8723	\$ 2.70	#8733	\$ 4.05	#8743	\$ 8.10
30.....	500 AC	#8623	7.65	#8633	8.10	#8643	10.80
60.....	250-600	#8626	8.10	#8636	8.55	#8646	13.50
100.....	250-600	#8621	10.80	#8631	12.15	#8641	20.70
200.....	250-600	#8622	18.90	#8632	22.50	#8642	37.80
400.....	250-600	#8624	39.60	#8634	54.00	#8644	86.40

## ACCESSORIES FOR NOARK SWITCHES

Single Piece End Wall for 30 Amp. Switches.....	\$ .30	For 60 & 100 Amp.....	\$ .80
Shutter for ".....	.15	60 & 100 ".....	.30
Universal End Wall No. 909103.....	.40		
Blanking Side No. 908103-908203.....	.15		
Trough—3-4 & 5' \$ .40—6' \$ .45—7'.....	.60	8'—\$ .55—9'.....	.80
Cabinet Fuse Block No. 902413.....	1.25		

## POLYPHASE

## Noark Switches Without End Walls

125-250 Volts	Main Entrance	"Doall" & 3 Wire	"Acco" Quad Break	"Seco" Quad Break
Amps.	No.	Price	No.	Price
30A.....	851233	\$ 4.70	77033	\$10.50
60A.....	851236	11.70	77036	18.60
100A.....	851231	19.20	77031	28.25
30A.....	931233	\$11.05	67033	\$11.15
60A.....	931236	16.65	67036	20.35
100A.....	931231	26.15	67031	30.00

## MAIN ENTRANCE SWITCHES

## Noark Doall Without End Walls

Amps.	Fused For	2 Pole	Price	3 Pole	Price
30.....	Plug Fuses	813123-811123	\$ 2.70	812333-814333	\$ 3.45
30.....	Enclosed Fuses	853123-851223	3.75	852333-854333	4.30
60.....	"	853126-851226	8.45	855336	8.90
100.....	"	853121-851221	15.05	855331	15.95

## SOLID NEUTRAL SWITCHES

## Noark Fusible—Quick Break

Amps.	Volts	3 Pole-2 Poles	Price	4 Pole-3 Poles	Price	5 Pole-4 Poles	Price
30.....	125-250	8133	\$ 4.95	8143	\$ 8.10	8153	\$ 9.00
60.....	"	8136	9.00	8146	11.25	8156	19.80
100.....	"	8131	14.40	8141	19.80	8151	35.55
200.....	"	8132	22.50	8142	31.50	8152	50.40
400.....	"	8134	63.00	8144	81.00	8154	120.60

## TOGGLE SWITCHES

## Bulldog

125 V.-2 Pole—One Blade	No. 111 & 211	BT-TE-TF	
" " 2 " Two " "		& TM	\$ 1.80
" " 3 " Three " "	Solid Neutral	TE-211S	4.50
" " 3 " Three " "	3 Plug Fuses	TE-311B	5.00
" " 3 " Three " "	Solid Neutral	TE-311S	8.10
250 " 2 " Two " "	2 Fuse Conn.	TE-311SG	7.20
" " 3 " Three " "	3 Fuse Conn.	TF-221S	5.40
500-600 V.-3 Pole—Three Blade 3 Fuse Conn.	Solid Neutral	TF-321SG	7.65
250-600 " 2 " "		TF-351S	12.60
" " 3 " "		TN-261S	5.40
" " 3 " "		TN-361S	7.20
Motor Starter 3 " TJM-321S & TJM-321SU		TN-361SR	10.80
			9.00

## TYPE "C" SWITCHES

## Bulldog Single Throw Fusible Quick Make &amp; Break

Amps.	250 Volts DC & AC	2 Pole	Price	3 Pole	Price
30 125 Volt only.....	JF211S	\$ 2.70	JF311S	\$ 4.40	
30 Porc. Base.....	JF221S	3.15	JF321S	5.15	
30 End Plates.....	JF221P	3.15	JF321P	5.15	
30 Slate Base.....	JF221	5.40			
60 ".....	JF222	8.10	JF322	9.90	
100 ".....	JF223	12.60	JF323	15.30	
200 ".....	JF224	19.80	JF324	26.10	
400 ".....	SF225	48.60	SF325	66.60	

## TYPE "C" SWITCHES

## Bulldog Single Throw Not-Fusible

Amps.	500-600 Volts A. C.	3 Pole	Price	4 Pole	Price
30 125 Volt only.....	JF351	\$ 8.50	JF451	\$ 13.50	
30 Porc. Base.....	JF352	10.80	JF452	14.40	
30 End Plates.....	JF353	17.10	JF453	29.80	
30 Slate Base.....	JF354	32.40	JF454	46.80	
60 ".....	SF355	81.00	SF455	126.00	

## TYPE "C" SWITCHES

## Bulldog Single Throw Not-Fusible

Amps.	250 Volts	2 Pole	Price	3 Pole	Price
30.....	JN221S	\$ 3.15	JN321S	\$ 4.15	
30.....	JN251	7.65	JN351	8.10	
60.....	JN252	8.10	JN352	8.55	
100.....	JN253	10.80	JN353	12.15	
200.....	JN254	17.60	JN354	22.50	
400.....	SN255	36.00	SN355	46.80	

## TYPE "C" SWITCHES

## Bulldog Single Throw Not-Fusible

Amps.	250 Volts	2 Pole	Price	3 Pole	Price
30.....	JN421S	\$ 8.00	JN451S	\$ 10.80	
30.....	JN451	10.80	JN452	13.50	
60.....	JN452	13.50	JN453	20.70	
100.....	JN453	20.70	JN454	47.80	
200.....	JN454	47.80	SN455	63.00	



## Switches

## Bulldog

2 Pole—125 Volt—Fusible—For Plug Fuses	No. JE211 S & P.....	\$1.65
2 Pole—125 Volt—Fusible—For Plug Fuses	Quick Make & Break	
	JE211S.....	2.70
2 Pole—250 Volt—Fusible—For Cart. Fuses	SF221 S & P.....	2.50
2 Pole—250 Volt—Not Fusible—For Cart. Fuses	SN221 S & P.....	2.70
3 Pole—125 Volt—Fusible—For Plug Fuses	No. JE311 SP & PG.....	3.00
3 Pole—125 Volt—Fusible—For P.ug Fuses	Quick Make & Break JF311S	4.35

### "TYPE A"

### Bulldog Single Throw Quick Make and Break

	2 Pole		3 Pole	
	Number	Price	Number	Price
<b>250 Volts Fusible</b>				
30 Amp.	SF-221	\$ 10.80	SF-321	\$ 12.60
60 "	SF-222	13.50	SF-322	17.10
100 "	SF-223	20.70	SF-323	27.00
200 "	SF-224	32.40	SF-324	36.00
400 "	SF-225	63.00	SF-325	81.00
<b>500-600 Volts Fusible</b>				
30 Amp.		For	SF-351	18.00
60 "		2 Pole	SF-352	19.90
100 "		See 600 Volt	SF-353	28.80
200 "		Fusible	SF-354	45.00
400 "		Below	SF-355	88.00
<b>250-500-600 Not Fusible</b>				
30-60 Amp.	SN-251	\$11.70	SN-351	13.95
100 "	SN-253	19.80	SN-353	21.60
200 "	SN-254	25.20	SN-354	30.80
400 "	SN-255	54.00	SN-355	63.00
<b>600 Volts Fusible</b>				
30 Amp.	SF-261	16.20	SF-361	19.30
60 "	SF-262	17.10	SF-362	19.80
100 "	SF-263	27.00	SF-363	31.70
200 "	SF-264	42.00	SF-364	48.00
400 "	SF-265	93.00	SF-365	122.00
<b>600 Volts Not Fusible</b>				
30-60 Amp.	SN-261	12.60	SN-361	16.20
100 "	SN-263	20.25	SN-363	24.75
200 "	SN-264	26.50	SN-364	33.75
400 "	SN-265	65.50	SN-365	87.75
				<b>4 Pole</b>
			Number	Price
<b>250 Volts Fusible</b>			SF-421	\$ 16.20
30 Amp.			SF-422	21.60
60 "			SF-423	36.00
100 "			SF-424	54.00
200 "			SF-425	108.00
400 "				
<b>500-600 Volts Fusible</b>				
30 Amp.			SF-451	21.60
60 "			SF-452	23.40
100 "			SF-453	47.80
200 "			SF-454	57.60
400 "			SF-455	126.00
<b>250-500-600 Not Fusible</b>				
30-60 Amp.			SN-451	19.80
100 "			SN-453	28.80
200 "			SN-454	40.00
400 "			SN-455	108.50
<b>600 Volts Fusible</b>				
30 Amp.			SF-461	23.40
60 "			SF-462	25.20
100 "			SF-463	39.60
200 "			SF-464	59.40
400 "			SF-465	144.00
<b>600 Volts Not Fusible</b>				
30-60 Amp.			SN-461	21.75
100 "			SN-463	29.70
200 "			SN-464	43.65
400 "			SN-465	120.00

### COMPENSATOR SWITCHES "A"

### Bulldog Quick Make & Break Fusible

Amps.		250 Volt AC			
		3 Pole		4 Pole	
30 A.	SF321 C	\$16.20	SF421 C	\$ 21.60	
60 A.	SF322 C	20.25	SF422 C	26.10	
100 A.	SF323 C	31.50	SF423 C	46.80	
200 A.	SF324 C	45.90	SF424 C	64.80	
400 A.	SF325 C	94.50	SF425 C	129.00	
Amps.		500-800 Volts AC			
		3 Pole		4 Pole	
30 A.	SF351 C	\$20.70	SF451 C	\$32.40	
60 A.	SF352 C	21.00	SF452 C	36.00	
100 A.	SF353 C	33.75	SF453 C	61.20	
200 A.	SF354 C	50.40		.....	
400 A.	SF355 C	105.60			

## MOTOR STARTERS

## Bulldog

30	Amp-Type	C-Port.	Base-110 to 440 Volt	3 Pole	
30	"	C Slate	440 & 550 "	JM-321S	\$ 6.75
30	"	"	250 Volt	JM-351	11.70
30	"	"	500 "	MF-321	17.00
60	"	"	500 "	MF-351	23.75
60	"	"	250 "	MF-322	23.50
60	"	"	500 "	MF-352	28.80

30	Amp-Type	C-Port.	Base-110 to 440 Volt	4 Pole	
30	"	C-Slate	440 & 550 "		.....
30	"	"	250 Volt	MF-421	\$22.80
30	"	"	500 "	MF-451	35.25
60	"	"	250 "	MF-422	29.45
60	"	"	500 "		

**NOTE:** For Bulldog Switches not listed deduct 10% from Bulldog Lists.

**Columbia, 30 Amp.**

Description					2 Pole
Single Fused	Single Blade-125 Volt-Plug Fused				330-331 \$1.50
Double	Double " 125 " " "				1980 1.65
"	" " " " 250 " " Cartridge Fused				3980 2.50
"	" " " " 250 " " "				322 2.85
					423 2.60
Description					3 Pole
Single Fused	Single Blade-125 Volt-Plug Fused				
Double	Double " 125 " " "				1931-2 \$2.15
"	" " " " 250 " " "				3980-1 2.50
"	" " " " 250 " " Cartridge Fused				323 4.00
"	" " " " 250 " " "				423 4.60

## BRANCH CIRCUIT ENTRANCE SWITCHES

**Columbia**

30 Amp. Series	2		4		6		8	
	Circuit 2 Pole		Circuit 2 Pole	3 Pole	Circuit 2 Pole	3 Pole	Circuit 2 Pole	3 Pole
2401 to 2406	\$4.00		\$5.00	\$5.35	\$6.00		\$6.35	\$7.35
3401 to 3406	5.00		6.35	6.65	7.35		8.70	9.75
3501 to 3506	4.85		6.00	6.35	7.00		7.70	8.70

## INDUSTRIAL SWITCHES

**Columbia**

Series 70 Type C Fusible					
	Amps	2 Pole		3 Pole	
		Number	Price	Number	Price
250 Volts	30A	C7001	\$ 9.40	C7002	\$11.60
Fusible	60A	C7004	12.10	C7005	15.75
Quick Make	100A	C7007	19.10	C7008	24.00
& Break	200A	C7010	28.35	C7011	35.00

Series 70 Type A Fusible					
	Amps	2 Pole		3 Pole	
		Number	Price	Number	Price
250 Volts	30A	A7001	\$10.45	A7002	\$13.00
Fusible	60A	A7004	13.30	A7005	17.55
Quick Make	100A	A7007	21.75	A7008	27.90
& Break	200A	A7010	31.00	A7011	39.00

Series 71-500 Volts Fusible						
500 Volts Quick Make & Break	Amps		2 Pole		3 Pole	
		Number	Price	Number	Price	
	30A	7101	\$13.60	7102	\$15.75	
	60A	7104	14.15	7105	16.10	
	100A	7107	23.80	7108	27.00	
	200A	7110	38.25	7111	43.80	

Series 73-500 Volts Unfused					
	Amps	2 Pole		3 Pole	
		Number	Price	Number	Price
500 Volts	30A	7301	\$11.00	7302	\$12.90
Quick Make	60A	7304	11.00	7305	13.40
& Break	100A	7307	17.35	7308	19.50
	200A	7310	24.00	7311	28.80

Series 72-600 Volts Fusible					
	Amps	2 Pole		3 Pole	
		Number	Price	Number	Price
600 Volts	30A	7201	\$14.80	7202	\$16.25
Quick Make	60A	7204	14.80	7205	16.75
& Break	100A	7207	24.50	7208	27.60
	200A	7210	39.00	7211	43.00

Series 74-800		Volts		Unfused	
Amps	2 Pole	3 Pole	Price	Number	Price
600 Volts	30A	7401	\$11.90	7402	\$14.50
Quick Make	60A	7404	12.60	7405	15.10
& Break	100A	7407	19.20	7408	21.70
	200A	7410	25.50	7411	29.00

Series 20-250 Volts Fusible					
Amps		2 Pole		3 Pole	
Quick Break	30A	Number	Price	Number	Price
Only	60A	2022	\$ 5.15	2023	\$ 6.90
250 Volts	100A	2025	6.95	2026	8.00
	200A	2028	10.95	2029	13.50
		2031	19.35	2032	24.90

Series 23-250-500		Volts Unfused			
Amps	2 Pole		3 Pole		
	Number	Price	Number	Price	
Quick Break	30A	2322	\$ 4.85	2329	\$ 6.35
Only	60A	2325	9.10	2336	9.75
250 Volts	100A	2328	11.60	2339	12.75
	200A	2331	19.40	2342	23.00

Series 30—Quick Break—250 Volts For Meter Trims				
		30 Amp.		60 Amp.
2 Pole.....	3022	\$5.65	3025	\$ 8.9
3 Pole.....	3023	7.65	3026	10.0
		100 Amp.		200 Amp.
2 Pole.....	3028	\$12.70	3031	\$18.3
3 Pole.....	3029	16.30	3032	24.3

## MOTOR STARTING SWITCHES

**Columbia, 250 Volts**

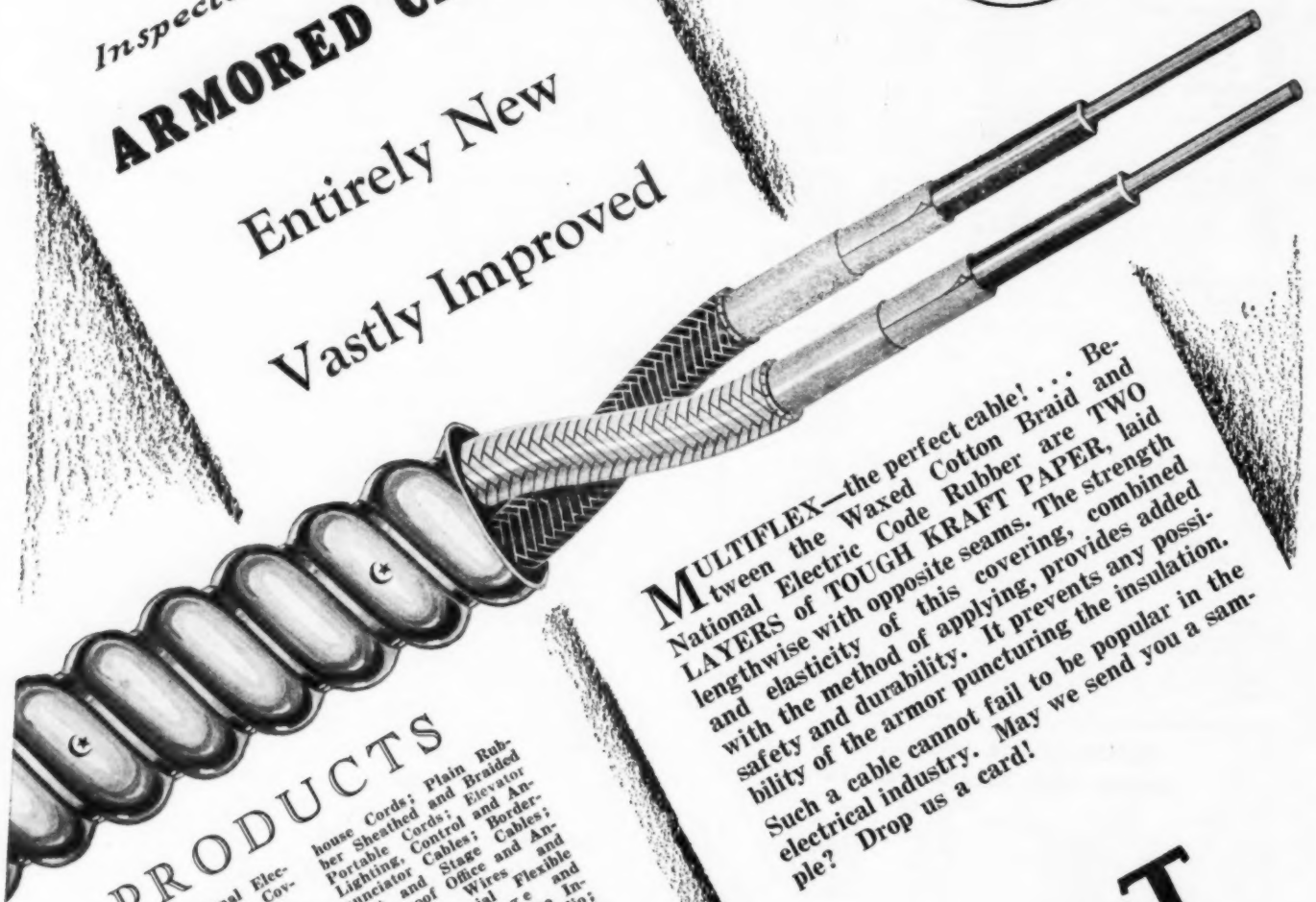
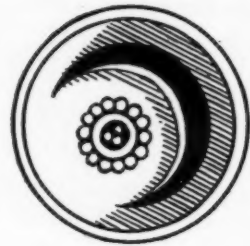
		2 Pole		3 Pole	
30 Amp. Motor Start Switch.....	6001	\$12.70	6002	\$17.00	
60 " " " .....	6004	13.30	6005	17.45	
				4 Pole	
30 Amp. Motor Start Switch.....			6003	\$20.00	
60 " " " .....			6006	27.20	

# MULTIFLEX

*Inspected and Listed by Underwriters Laboratories*

## ARMORED CABLE

Entirely New  
Vastly Improved



## PRODUCTS

"Crescent" National Electric Code Rubber Covered Wire and Cable.  
Intermediate Grade Rubber Covered Wire and Cable.  
"Imperial" 30% Rubber Covered Wire and Cable.  
"Crescent" Lead Encased Wire and Cable.  
"Crescent" Armored Cable.  
"Crescent" Lead Covered Armored Cable.  
"Crescent" Flexible Metallic Conduit.  
Lamp, Heater, and Canvasite and Brewery Packing-house Cords; Plain Rubber Sheathed and Braided Portable Cords; Elevator Lighting, Control and Annunciator Cables; Border-light and Office and Annunciator Wires and Flexible Cables; Cordage Instruments; Cords for Telephone and Radio; Magnet Wires—cotton and silk covered; Organ Wire and Bare Wire and tinned copper wire and cables.

**MULTIFLEX**—the perfect cable! . . . Between the Waxed Cotton Braid and National Electric Code Rubber are TWO LAYERS of TOUGH KRAFT PAPER, laid lengthwise with opposite seams. The strength and elasticity of this covering, combined with the method of applying, provides added safety and durability. It prevents any possibility of the armor puncturing the insulation. Such a cable cannot fail to be popular in the electrical industry. May we send you a sample? Drop us a card!

**CRESCENT**  
*Insulated Wire and Cable Co.*  
TRENTON N. J.  
Forty Years of Knowing How in Every Crescent Product



**350  
TONS**  
*—of—*  
**WHITENRED  
CONDUIT**  
*in the new*  
**NEW YORK  
CENTRAL  
BLDG.**

Here is the masterpiece of all architectural masterpieces among New York's great skyscrapers—the crowning achievement of a 23 year development plan of the New York Central Railroad—a magnificent achievement conceived by Warren & Wetmore, Architects—built by James Stewart and Company and electrified by J. Livingston and Company, Electrical Contractors.

Only the finest and most enduring materials were used in its construction including 350 tons of "Whitenred"—the conduit of super-service that is not only weather proof but acid proof—a conduit that represents the highest development in super-protected electrical systems.

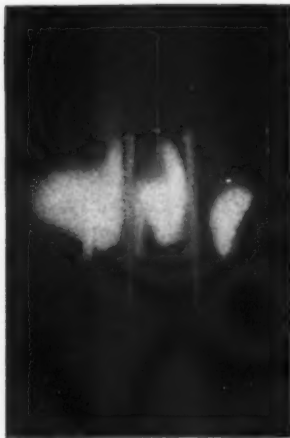
**CENTRAL TUBE COMPANY**  
PITTSBURGH







## You cannot afford to overlook this new switch



Unretouched photograph of arcing accompanying the interruption of the locked rotor current of a 15 H.P. 550 volt squirrel cage induction motor by a contactor type motor starter.

The Condit Type A-30 Motor Starter operates on the wonderful new principle which means "hardly an arc — only a spark".

Think of it! Relatively no burning of contacts or gas—maximum safety—maintenance minimized—a switch that is practically indestructible.

Examine this revolutionary switch! See what it means to you in terms of operating efficiency and economy.

Price complete with Type H-6 push button and two Type C-30 automatic re-set thermal relays— \$18.00 net, F.O.B. Factory.

“*Get in touch with Condit*”

**CONDIT ELECTRICAL MFG. CORPORATION**  
Manufacturers of Electrical Protective Devices  
BOSTON, MASS.



Unretouched photograph of the interruption by the type A-30 under precisely duplicate conditions as that of the old type starter opposite. Hardly an arc—only a spark.

**SPECIFICATIONS:** 3 pole for across-the-line starting service with squirrel cage induction motors up to 20 H. P., 550 and 440 volts; 15 H. P., 220 volts; 7½ H. P., 110 volts. Approved by Underwriters Laboratories and Associated Factory Mutual Companies.

# CONDIT

# Speaking of Making Estimates & Figuring Profits ~ Says Mr. A. Oppenheimer

**I** ADVISE every electrical dealer and electrical contractor to get his name conspicuously identified with the growing demand for Ilg Ventilation. Every store, office, workshop, restaurant, public building, home, etc., is a prospect—a cash sale plus a substantial profit on materials and labor.

I have been making money for twelve years recommending Ilg Electric Ventilators. As an example, I recently submitted an estimate of \$257.84 for furnishing and installing two units.

It took twelve hours to do the job and my net profit was \$61.62.

Every merchant and contractor will appreciate doing business with the Ilg organization. They have a golden rule sales policy that respects established trade relations and protects trade prices. Take my advice—look into this Ilg Electric Ventilation market. Sign and mail the attached coupon.

*Address it as follows:*

## ILG ELECTRIC VENTILATING COMPANY

2879 N. Crawford Avenue  
CHICAGO, ILL.



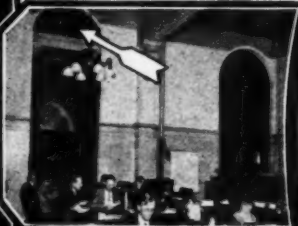
One ILG Electric Ventilator makes this lunch room a joy spot.



No fumes or gases in this garage. It is safely and economically ventilated with ILG Electric Ventilators.



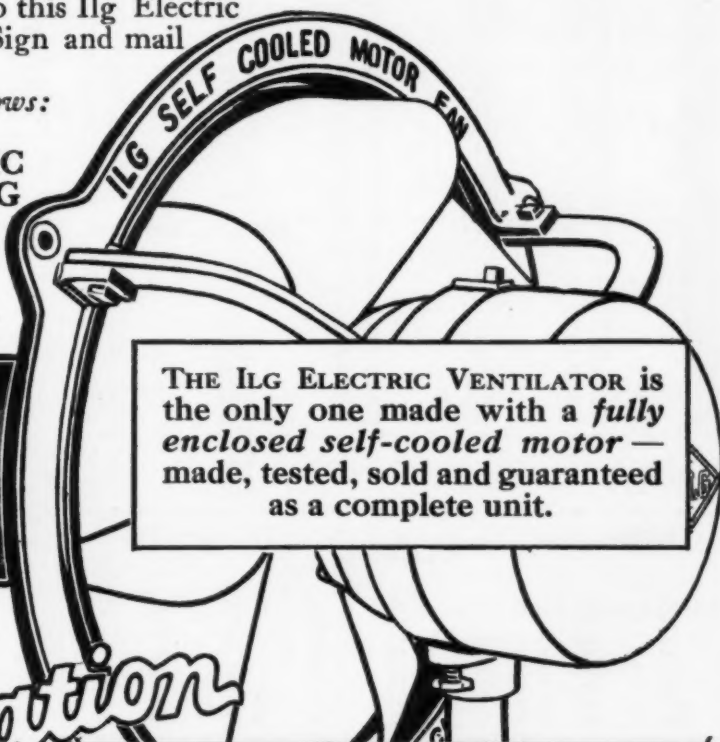
An inviting basement store correctly ventilated with ILG Electric Ventilators.



One ILG Electric Ventilator makes this bank a delightful place in which to work.



*Mr. Oppenheimer is one of the hundreds of "Ilgmen" who have found that the sale of an Ilg Electric Ventilator includes a substantial profit on materials and labor.*



for Offices,  
Stores, Factories,  
Restaurants,  
Theatres, Public  
Buildings,  
Homes, etc., etc.

### C . O . U . P . O . N

ILG ELECTRIC VENTILATING CO.  
2879 North Crawford Avenue, Chicago, Ill.

Without obligation send me the new Ilg Dealers Manual and information about your Special Window Display Offer.

Name \_\_\_\_\_

Full Address \_\_\_\_\_

My Jobber's Name is \_\_\_\_\_

30 Amp. Switches			Wadsworth 30 Amp. Switches			30 Amp. Switches		
No.	Price		Number	Price		Number	Price	
25	\$2.20		322	\$ 6.20		1423T	\$ 5.45	
26	2.65		331	4.85		1450	3.65	
27	2.50		332	6.55		1450T	4.25	
30	1.55		340	4.75		1451	3.95	
31	1.55		341	5.05		1451T	4.60	
33	1.65		360	3.20		1500	4.15	
38	2.50		361	4.55		1502	4.80	
39	3.75		362	4.15		1503	4.80	
131	3.90		370	4.15		1511	4.50	
132	3.30		372	4.95		1512	5.10	
133	3.90		380	5.05		1530	9.40	
141	4.15		382	5.15		1532	10.00	
142	3.75		392	5.45		1543	5.10	
143	4.15		440	6.20		1612	4.05	
144	4.55		441	6.55		1630	9.15	
145	4.95		443	6.65		1632	9.85	
151	3.40		461	7.05		1643	4.25	
152	3.00		462	6.70		2254	6.70	
153	3.40		463	7.05		2294	7.05	
154	4.45		464	6.70		2441	6.65	
211	4.15		463	5.35		2461	7.05	
212	3.75		734	11.15		2462	6.70	
213	4.15		1013	4.20		2463	7.05	
214	3.75		1014	6.10		2464	6.70	
221	2.65		1202	3.95		2534	6.75	
223	2.40		1212	4.25		2632	3.25	
224	3.00		1223	4.75		2633	4.65	
238	3.75		1250	3.65		2639	4.65	
241	5.45		1322	4.15		3032	11.15	
242	5.10		1323	4.75		3033	12.00	
243	5.45		1402	3.95		3532	6.10	
244	5.10		1403	4.25		3533	10.30	
271	4.00		1401T	4.55		3534	13.00	
272	4.00		1402T	4.55		3539	10.00	
273	4.70		1403T	4.80		3632	16.80	
274	4.40		1411T	5.15		3633	21.15	
284	5.20		1412	4.25		3634	22.05	
292	4.00		1412T	5.20		3639	21.10	
294	5.75		1423	4.75		.....	.....	

60 Amp. Switches			Wadsworth 100 Amp. Switches			200 Amp. Switches		
No.	Price		Number	Price		Number	Price	
161	\$ 9.60		102	\$15.70		522	\$19.80	
162	9.15		110	16.55		523	24.95	
163	11.80		111	16.55		722	37.05	
171	9.35		112	15.70		723	51.90	
172	9.15		113	18.95		724	57.35	
503	11.45		513	17.25		729	52.00	
1024	11.40		1033	11.55		1042	14.20	
1762	16.30		1034	16.50		1643	22.00	
1763	22.75		1712	27.35		1044	31.35	
1764	21.45		1713	35.40		2622	18.15	
1769	21.70		1714	35.00		2623	21.45	
1800	15.70		1719	30.90		2624	40.85	
1802	16.55		1900	24.35		2629	19.80	
1803	17.40		1902	25.20		3522	27.20	
1812	17.40		1903	26.10		3523	31.15	
1830	19.10		1912	26.10		3524	43.15	
1834	20.90		1930	28.70		3529	31.15	
1842	17.40		1934	30.50		3622	41.60	
1843	18.25		1942	26.10		3623	47.85	
1851	16.55		1943	27.90		3624	53.20	
2030	15.65		1951	26.10		3629	47.35	
2034	17.40		2130	25.20				
2042	16.70		2134	26.95				
2043	16.55		2142	24.40				
2051	14.80		2143	24.40				
2602	8.70		2151	26.10		642	\$55.45	
2604	13.30		2614	25.60		643	57.65	
3002	17.05		3512	14.65		742	61.65	
3003	22.05		3513	17.75		743	75.13	
3004	24.00		3514	25.60		744	95.30	
3009	22.05		3519	17.75		749	75.15	
3502	9.75		3612	24.85		1052	36.30	
3503	11.55		3613	31.95		1053	47.85	
3504	13.75		3614	35.90		1054	66.00	
3509	11.85		3619	31.95		2542	49.50	
						2543	61.00	
						2544	80.65	
						3542	54.45	
						3543	78.40	
						3544	94.05	
						3549	78.35	

## EXTRA END WALLS—SHUTTERS—TRIMS—ETC.

Wadsworth			Type of Trim			Knock-out & Shutter		
For	30 Amp.	125 Volt Switches	Flat	Extended	Shutter	Shutter	Shutter	Shutter
"	30	" 250	"	\$ .30	\$ .50	\$ .30	\$ .30	\$ .17
"	60	" 250	" 2 Pole	.50	.65	.50	.35	..
"	60	" 250	" 3 "	.65	.83	.65	.45	.25
"	100	" 250	" 2 "	.75	.90	.75	.50	..
"	100	" 250	" 3 "	.82	1.00	.82	.45	..
"	200	" 250	" 2 "	.90	1.10	.90	.50	..
"	200	" 250	" 3 "	1.00	1.15	1.00	.50	..
"	200	" 250	" 3 "	1.10	1.25	1.10	.55	..

## Murray Switches

## ENTRANCE SWITCHES

With End Wall			2 Pole			3 Pole		
Amps.	Volts	Description	No.	Price		No.	Price	
30	125	For Plug Fuses 1 Blade 1 Fuse	630	\$ 1.50		230	\$2.25	
30	125	" " " 2 " 2 "	231	1.65		231	2.10	
30	125-250	" " " " " "	.....	.....		831	2.10	
30	125-250	For 2 Cartridge Fuses	.....	.....		830	3.55	
60	250	" 3 Cart. Fuses-3 Phase-3 Wire	.....	.....		760	17.40	
60	250	" 3 " " 4 " 4 "	.....	.....		769	20.00	
100	250	" 3 " " 3 " 4 "	.....	.....		710	29.05	
100	250	" 3 " " 3 " 4 "	.....	.....		712	29.95	
200	250	" 3 " " 3 " 3 "	.....	.....		720	60.75	
200	250	" 3 " " 3 " 4 "	.....	.....		722	68.85	

## ACCESSIBLE MAIN FUSE SWITCHES

Meter Test Type			Without End Walls			
			2 Pole		3 Pole	
Amps	Volts	Description	No.	Price	No.	Price
30	125	For Plug Fuses One Fuse	755	\$ 3.65		
30	125	" " " 2 & 3 Fuse	748	3.95	756	\$ 4.45
30	250	" Cart. " One Fuse	738	4.20		
30	250	" " " Two Fuse	737	4.85	742	4.85
60	250	" " " For 1 Fuse	766	15.95		
60	250	" " " For 2 Fuse	764	16.85	765	17.70
100	250	" " " For 2 Fuse	718	25.60	719	27.40

Meter Test		3 Phase 3 & 4 Wire Type		Without End Walls		
60	250	For 3 Cart. Fuses-3 Phase-3 Wire	...	...	767	\$19.90
60	250	" 3 " " 3 " 4 "	...	...	768	23.00
100	250	" 3 " " 3 " 4 "	...	...	711	30.00
100	250	" 3 " " 3 " 4 "	...	...	714	32.45
200	250	" 3 " " 3 " 4 "	...	...	721	64.80
200	250	" 3 " " 3 " 4 "	...	...	723	72.90

With Branches Combined						
30	125	For Plug Fuses-2 Branches	780	\$5.70	782	\$6.50
30	125	" " " 4 " "	781	6.35	783	7.15
30	125	" " " 1 " "	784	6.00	...	...
30	125	" " " 2 " "	785	6.65	...	...

Not Meter Test				Without End Walls		
30	125	For Plug Fuses-One Fuse	754	\$ 3.35	...	...
30	125	" " " Two Fuses	752	3.65	753	\$ 3.95
30	250	For Cart. " " " "	757	4.55	758	4.55
60	250	" " " " " "	762	15.95	763	16.80
100	250	" " " " " "	716	24.75	717	25.60

## "UNISAFTI"

## (Universal Standardized Switches)

Number			All 30 Amps.			Price		
Pole	Fuse	Neutral	1-2-Wire	2 Fuses	Branches & Fusing			
234	2	Single	2-2	"	2	\$3.25		
235B	2	"	2-2	"	2	3.25		
236	2	"	4-2	"	2	4.30		
237	3	Two	1-3	"	2	3.75		
237	2	"	1-2	"	2	3.75		
237	3	"	2-2	"	2	3.75		
238	3	"	4-2	"	4	4.85		
238	2	"	2-2	"	4	4.85		

## METER SERVICE SWITCHES

Fuses & Blades Dead			Sealed Fuses		Without End Walls	
Amp.	Volts	Description	No.	2 Pole	No.	3 Pole
30	125	For Plug Fuses	232	\$ 2.20	233	\$ 3.35
60	250	For Cart. Fuses	364	15.05	365	15.95
Fuses Alive						
30	125	For Plug Fuses	330-1	\$ 2.65	333	\$ 3.35
30	250	For Cart. Fuses	130	2.65	133	3.35
60	250	" " "	360	8.45	361-3	8.90
100	250	" " "	310	15.05	313-4	15.95

## SEALABLE MAIN FUSES

Polyphase—3 Wire				Without End Walls	
3 Pole-3 Blades-For Cart. Fuses 250V.	30 Amp.	60 Amp.	100 Amp.		
	332 \$11.10	362 \$16.80	311 \$26.50		

## TYPE C SWITCHES

			Quick Break					
Amps.	Description All Cart. Fuse		2 Pole		3 Pole		4 Pole	
			No.	Price	No.	Price	No.	Price
30			632	\$ 3.35	633	\$ 4.40	634	\$ 8.70
30	Solid Neutral	125-250	...	...	636	4.95	...	...
60			661	8.35	663	9.45	664	12.15
60	Solid Neutral	125-250	...	...	665	9.45	...	...
60	"	"	...	...	662	9.45	663	9.45
100			611	13.30	613	16.20	614	24.75
100	Solid Neutral	125-250	...	...	615	16.20	...	...
100	"	"	...	...	612	16.20	613B	17.10
200			621	23.40	623	28.80	624	51.30
200	Solid Neutral	125-250	...	...	625	24.30	...	...
200	"	"	...	...	622	28.80	623B	30.15



## ALL-N-ONE SWITCHES

Live Front		Double Fuse		Dead Front		Single Fuse	
No.	Circuits	Price		No.	Circuits	Price	
A-2	2	\$3.45		AD-3	3	\$5.40	
A-3	3	3.80		AD-4	4	5.55	
A-5	5	4.15		AD-5	5	6.75	
A-7	7	6.60		AD-6	6	7.95	
A-9	9	6.95		AD-8	8	9.30	
				AD-10	10	11.25	

## RANGE & WATER HEATER SWITCHES

### 60 Amp.—125 Volts

No. 501	No. 502	No. 503	No. 504	No. 505	No. 506	No. 507
\$9.90	\$15.25	\$23.60	\$26.75	\$20.25	\$8.90	\$13.90

## MOTOR STARTING SWITCHES

MS-1	30 Amp. 3 Pole 220 Volts Quick Make & Break Toggle.....	\$6.00
C-3P	30 Amp. 3 Pole 250 Volts Not Toggle.....	7.10

## SAFE LINE SERVICE SWITCHES

No. 904 Single Pole 4 Circuits with Transformer.....	\$7.85
" " " 4 " without Transformer.....	6.60

### INDUSTRIAL TYPE

### Quick Break—Single Throw—Fused Bottom

		250 Volts				
Amp.	No.	Price	No.	Price	No.	Price
30	3022	\$ 5.40	3032	\$ 6.75	3042	\$ 7.90
60	6022	8.10	6032	11.90	6042	11.65
100	10022	11.65	10032	14.05	10042	24.10
200	20022	18.25	20032	24.10	20042	39.75
400	40022	44.85	40032	61.50	40042	87.20
600	60022	78.00	60032	91.30	60042	131.10

500 Volts					
Amp.	No.	Price	No.	Price	No.
30	3025	\$ 7.00	3035	\$ .55	3045
60	6025	9. 90	6035	10. 80	6045
100	10025	13. 30	10035	15. 80	10045
200	20025	26. 60	20035	30. 00	20045
400	40025	68. 00	40035	74. 70	40045
600	60025	96. 30	60035	103. 00	60045

	30 Amp.	60 Amp.	100 Amp.	200 Amp.
Amps.....	30 Amp.	60 Amp.	100 Amp.	200 Amp.
Number.....	3026	6026	10026	20026
Price.....	\$15.30	\$15.80	\$25.00	\$38.60

### Not Fused—Quick Break

NOT FUSED—QUICK BREAK						
Amps.	Pole	Single Throw—No Fuse			Double Throw—No Fuse	
		Volts	Number	Price	Number	Price
30	2	250 DC	3022N	\$ 5.00	3022DN	\$ 10.80
30	3	250 DC	3032N	6.30	3032DN	12.45
30	2	500 AC	3025N	8.65	3025DN	13.15
30	3	500 AC	3035N	8.10	3035DN	16.60
60	2	250-500	6025N	8.10	6025DN	13.15
60	3	250-5-0	6035N	8.55	6035DN	16.60
100	2	250-500	10025N	11.50	10025DN	24.90
100	3	250-500	10035N	11.25	10035DN	30.70
200	2	250-500	20025N	17.00	20025DN	34.85
200	3	250-500	20035N	20.75	20035DN	50.60
400	2	250-500	40025N	49.80	40025DN	99.60
400	3	250-500	40035N	58.00	40035DN	132.80
600	2	250-500	60025N	83.00	60025DN	141.00
600	3	250-500	60035N	99.60	60035DN	193.50

## S-SUNDRIES

## STEEL WOOD SCREWS

### Flat Head

Length	Number Per Dozen	Price Per Dozen				
		Up To 4	No. 5	No. 6	No. 7	No. 8
1/4		\$.05	\$.05	\$.05	\$.05	\$.05
1/2		\$.05	\$.05	\$.05	\$.05	\$.05
3/4		\$.05	\$.05	\$.05	\$.05	\$.05
1		\$.05	\$.05	\$.05	\$.05	\$.05
1 1/4		\$.05	\$.05	\$.05	\$.05	\$.05
1 1/2		\$.05	\$.05	\$.05	\$.05	\$.05
1 3/4		\$.05	\$.05	\$.05	\$.05	\$.05
2		\$.05	\$.05	\$.05	\$.05	\$.05
2 1/4		.....	.....	\$.05	\$.05	\$.05
2 1/2		.....	.....	\$.05	\$.05	\$.05
2 3/4		.....	.....	\$.06	\$.06	\$.06
3		.....	.....	\$.07	\$.08	\$.10
3 1/4		.....	.....	.....	.....	.....
3 1/2		.....	.....	.....	.....	.....
3 3/4		.....	.....	.....	.....	.....
4		.....	.....	.....	.....	.....

Length	Number Per Dozen	Price Per Dozen				
		No. 9	No. 10	No. 12	No. 14	No. 16
1	..	.....	.....	.....	.....	.....
1	..	\$ .05	\$ .05	.....	.....	.....
1	..	.05	.05	.....	.....	.....
1	..	.05	.05	\$ .06	\$ .07	.....
1	..	.05	.05	.06	.07	.....
1	..	.05	.05	.08	.08	\$ .09
1	..	.05	.05	.07	.09	.10
1	..	.05	.05	.08	.10	.11
2	..	.05	.06	.09	.11	.12
2	..	.06	.07	.10	.12	.13
2	..	.07	.10	.11	.13	.14
2	..	.10	.10	.12	.15	.16
2	..	.10	.12	.13	.16	.17
3	..	.....	.15	.16	.17	.18
3	..	.....	.....	.17	.18	.20

### BRASS SCREWS

### Round, Flat or Oval Head

Length	Number Per Dozen	Price Per Dozen				
		Up to 4	No. 5	No. 6	No. 8	No. 9
1 1/4	"	\$.06	\$.06	\$.07	\$.08	\$.09
1 1/2	"	".08	".07	".08	".09	\$.10
1 3/4	"	".07	".07	".08	".10	".11
2	"	".07	".07	".08	".11	".12
2 1/4	"	".08	".08	".09	".12	".13
2 1/2	"	.....	.....	".11	".13	".15
2 3/4	"	.....	.....	".14	".15	".17
3	"	.....	.....	.....	".20	".22
3 1/4	"	.....	.....	.....	.....	.....
3 1/2	"	.....	.....	.....	.....	.....
3 3/4	"	.....	.....	.....	.....	.....
4	"	.....	.....	.....	.....	.....

Length	Number Per Dozen	Price Per Dozen				
		No. 10	No. 12	No. 14	No. 16	No. 18
1 1/2	" "	\$ .11	.....	.....	.....	.....
1 3/4	" "	.12	\$ .14	.....	.....	.....
2	" "	.14	.15	.....	.....	.....
2 1/4	" "	.15	.18	\$ .22	.....	.....
2 1/2	" "	.16	.20	.24	.....	.....
2 3/4	" "	.20	.25	.32	.....	.....
3	" "	.26	.30	.40	\$ .50	\$ .60
3 1/4	" "	.30	.35	.45	.55	.65
3 1/2	" "	.33	.40	.50	.65	.75
3 3/4	" "	....	.45	.60	.70	.85

For Gross Lots Multiply dozen price 7 times.

## LAG SCREWS

Length	3"	3½"	4"	4½"	5"	6"
1/4" Price Each	\$ .05	\$ .05	\$ .05	\$ .05	...	...
3/8" " "	...	...	.07	.08	\$ .09	\$ .10

### STRAPS—CLIPS OR CLAMPS

### Without Screws, For Pipe

Tinned Straps 2 Hole Price Each	34-36"	36"	36"	1"	134"
Light Steel Straps-1 Hole Price Each	\$.01	\$.01	\$.01	\$.01	\$.0134
Mall. Iron Straps-1 Hole Price Each	.03	.03	.05	.07	.08
P & S Conduit Clips With Bolts	.07	.07	.08	.10	.11
P & S Conduit Clips With Bolts	....	.10	.14	.18	.22
Tinned Straps 2 Hole Price Each	....	134"	2"	234"	3"
Light Steel Straps-1 Hole Price Each	....	\$.02	\$.03	\$.04	\$.05
Mall. Iron Straps-1 Hole Price Each	....	.10	.15	.30	.45
P & S Conduit Clips With Bolts	....	.25	.45	.70	.95
P & S Conduit Clips With Bolts	....	.26			

## SOLDER

	40-60 Bar or Wire	50-60 Bar or Wire	Resin Core	Ribbon 30-70	Allen Alumi- Flux
Per Pound.....	\$ .70	\$ .85	\$1.15	\$ .80	\$2.70
Per Ounce.....	.10	.10	.15	.10	.20

## SOLDER PASTE

Make	2 oz. Cans	2 oz. Tubes	4 oz. Cans	Half Pound Cans	One Pound Cans
Allen .....	\$ .30	\$ .40	\$ .55	\$ .90	\$ 1.50
Burnley .....	.20	...	.30	.40	.70
Crecent .....	.25	...	.35	.55	1.00
G. E. ....	.20	...	...	.80	1.50
Highland .....	.30	...	...	.80	1.50
Nokorode .....	.20	...	...	.80	1.50

## SOLDERING SALTS

		3/4 Lb.	1 Lb.
Burnley	In cans each	\$ .65	\$1.00
Eaco	" " "	" .80	1.80
Yeager	" " "	.65	1.00
McGill Crescent		.75	1.00
Nokorode	In cans each		.85
Allen	In Bottles each	.75	1.00

## SOLDER STICKS

SOLDER STICKS		Price
Burnley.....		\$ .20
Esco.....		25
Samson.....		.30
Allen.....		.40
Crescent.....		.25
GE.....		.25

## FIXTURE STUDS

FIXTURE STUDS		
Four Prong Fixture Studs Less Bolts.....	\$ .10	\$ .12
Bolts Extra.....	.01	.01
No Bolt Fixture Studs.....	.10	.12

## STAPLES

Staples Insulated Nails Per Dozen.....	\$ .08
Leather Nail Heads Per Dozen.....	.06
Milonite Insulated Nails Per Dozen.....	.06

## TAPE

## FRICTION TAPE

		Per Pound	Per Half Pound	Per 2 Ounce	Per 1 Ounce	Per Foot
Amazon Friction		\$ .60	\$ .30	\$ .10	\$ .05	\$ .01
Adhere		.65	.35	.10	.05	.01
Bulldox		.70	.40	.10	.05	.01
Catastet		.55	.30	.10	.05	.01
Commodity		.55	.30	.10	.05	.01
Dutch Brand		.65	.35	.10	.05	.01
Everstick		.55	.30	.10	.05	.01
Eaco		.95	.50	.15	.10	.02
G. E.		.55	.30	.10	.05	.01
Grimshaw		1.95	1.00	.20	.10	.02
Holdfast		1.00	.55	.15	.10	.01
Holdrite		.75	.35	.10	.05	.01
I X L		.65	.35	.10	.05	.01
Illinois		.55	.30	.10	.05	.01
Johns Manville Armature		1.75	.90	.20	.10	.02
" " Jomanco		1.15	.60	.15	.10	.02
" " White		1.35	.70	.20	.10	.02
" " No. 3 Now No. 5		.75	.40	.10	.05	.01
" " No. 6 " " 40		.60	.30	.10	.05	.01
Jaxon		.60	.30	.10	.05	.01
Leader		.70	.35	.10	.05	.01
Manson		1.20	.65	.20	.10	.02
Magnet		.75	.40	.10	.05	.01
O. K.		.60	.30	.10	.05	.01
P & B.		1.00	.55	.15	.10	.02
Peerless		.60	.35	.10	.05	.01
Service		.90	.50	.15	.10	.02
Stanpat		.55	.30	.10	.05	.01
Sticks		.55	.30	.10	.05	.01
Victor W. E.		.55	.30	.10	.05	.01
Vim Gray		1.10	.60	.15	.10	.02
W. E. Railway Signal		1.00	.45	.15	.10	.02

## RUBBER TAPE

		\$ .95	\$ .45	\$ .15	\$ .10	\$ .04
Amazon Rubber		1.20	.65	.15	.10	.04
Alexall		1.15	.60	.15	.10	.04
Alpha		.70	.35	.10	.05	.03
Brooklyn		.70	.40	.10	.05	.03
Catastet		.70	.35	.10	.05	.03
Dutch Brand		.60	.30	.10	.05	.03
Eleco		.60	.35	.10	.05	.03
G. E.		1.00	.60	.15	.10	.04
Holdfast		.65	.35	.10	.05	.03
Imperial		.65	.35	.10	.05	.03
Illinois		1.55	.80	.20	.10	.04
Okonite		.75	.40	.10	.05	.03
Para		.70	.35	.10	.05	.03
Pittsburgh		.65	.30	.10	.05	.03
Relio		.65	.30	.10	.05	.03
Security		.65	.35	.10	.05	.03
U. S. Rubber		.55	.30	.10	.05	.03
W. E. Victor		.55	.30	.10	.05	.03

## COUCH TELEPHONES

## VESTIBULE TYPE

No. 74 Armored Cord Receiver Type	\$25.00
No. 74A Swing Arm Receiver Type	37.30
No. 74C Cordless Loud Speaker Type	30.75
Above prices are for telephones complete but do not include for any call buttons.	
Add for buttons—Janitor Calling Buttons if fitted	\$ .95
Add for Each Suite Calling Button	.95

## SUITE TELEPHONES

Series 2809 to 2849 or 1909 to 49

Page 22 Bulletin No. 89 S. H. Couch Co.

Number of Buttons	0	1	2	3	4
Price Ea. Surface or Flush	\$11.40	\$11.40	\$12.45	\$13.60	\$14.60

## TELEPHONE CABLES

Number of Conductors	Braided Type "B"	Lead Covered Type "L"
	Number	Number
8	B-8	L-8
12	B-12	L-12
16	B-16	L-16
21	B-21	L-21
25	B-25	L-25
31	B-31	L-31
37	B-37	L-37
	Price per Foot	Price per Foot
	\$ .14	\$ .18
	.15 1/2	.21
	.18	.27
	.22	.29
	.24	.32
	.27	.39
	.30	.44

## TIME SWITCHES

## BUCKEYE TIME SWITCHES

	Without Term. Box	With Term. Box
110 or 220V. Sgl. or Dble Pole-10 A.	\$19.50	\$28.00
" " " " " " " 20 A.	23.00	30.00
" " " " " " " 30 A.	26.00	32.00
" " " " " " " 50 A.	30.00	36.00
Specials	26.00	30.00
Buckeye Combination Time Switch Remote Control Unit Complete		
AC Capacity up to 125A-110 or 220 Volt-2 & 3 Wire	\$ 70.00	
DC	125.00	

## HARTFORD TIME SWITCHES

	10 Amp.	20 Amp.	35 Amp.	50 Amp.
Type B Single or Double Pole	\$36.00	\$39.00	\$42.00	\$50.00
Type B Triple Pole	38.00	41.00	45.00	52.00
Type C & D Single or Double Pole	39.00	42.00	47.00	52.00
Type C & D Triple Pole	41.00	45.00	49.00	52.00
Type G Apt. Hall Light Control D.P.	38.00	42.00	47.00	52.00

## PARAGON TIME SWITCHES

Indoor	All 250 Volt	Outdoor
No. 1—\$47.00	30 Amp. Double Pole	No. 2—\$47.00
No. 1—59.00	50 " " "	No. 2—59.00
No. 1—69.00	30 " Triple " "	No. 2—59.00
No. 3—45.00	20 " Double " "	No. 4—45.00
No. 3—40.00	10 " " " "	No. 4—40.00
No. 3—45.00	10 " Triple " "	No. 4—45.00
Sunday Shut Off—Extra		\$5.00
Attachment for Turning on earlier		5.00

## RELIANCE &amp; RACINE SWITCHES

	10 Amp.	20 Amp.	30 Amp.	50 Amp.
Racine Type 1R-2R	\$19.50	\$23.00		
Reliance Type 10-20-30-50	28.00	30.00	\$32.00	\$36.00
Reliance Type 15 Triple Pole		32.00		

## SAUTER TIME SWITCHES

No.	Amps.	Poles	Description	Price
101	2	1	Clock operated, key wound 40 day clocks	\$ 52.00
111	10	1	" " " " 40 " "	56.00
121	15	2	" " " " 40 " "	60.00
201	2	1	Self winding	74.00
211	10	1	" " " "	80.00
221	10	2	" " " "	85.00
321	25	2	Motor operated self winding clocks	105.00
341	40	2	" " " "	110.00
401	100	2	Motor operated Oil Break self winding clocks	190.00
431	200	2	" " " "	250.00
461	300	2	" " " "	280.00

## TORK TIME SWITCHES OR CLOCKS

Description	Indoor	Outdoor	Switchboard
Single Pole 15 Amp. 125 Volt	#115—\$20.00	#215—\$25.00	#015—\$19.00
Double " 30 " 250 "	#130—25.00	#230—30.00	.....
Single " Double Throw	#166—25.00	.....	.....
Double " Momentary Contact	#111—25.00	.....	.....
Dble. Pole 30 A. 250 V. Windless	#730—60.00	#830—65.00	#930—58.00

## Combination Type—with Clock and Contactor

For AC Only	Description	For DC Only
No. 76062 \$50.00	60 Amps. 2 Pole	No. 75062 \$ 70.00
No. 76102 75.00	100 " 2 Pole	No. 75102 125.00

## ZENITH TIME SWITCHES

Amp. Volts Pole	Closed Face Numbers	Price	Open Face Numbers	Price	Open Flush Numbers	Mount Price
10 110 Sgl.	T-810	\$20.00				
10 220 Sgl.						
10 220 Dbl.						
10 220 Dbl. Mom. Cont.	110-MC	28.00	115-MC	\$30.00	125-MC	\$34.00
20 110 Sgl. On-Off	1101	20.00	1151	22.00	1251	26.00
20 110 Sgl.	110-ABCG	26.00	115-ABCG	28.00	125-ABCG	32.00
20 220 Dbl.	1102	23.00	1152	25.00	1252	29.00
20 220 Dbl.	110-B&G2	30.00	115-B&G2	32.00	125-B&G2	36.00
20 220 Tri.	11023	28.00	11523	30.00	12523	34.00
30 220 Dbl.	1103	25.00	1153	27.00	1253	31.00

## TRANSFORMERS

## BELL &amp; TOY TRANSFORMERS

Name	Style	Watt	Secondary Volts	50 to 133 Cycle No.	Price	25 to 40 Cycle No.	Price
ED-WARDS	Steel Clad Bell	25	Single	86	\$ 1.30	86T	\$ 1.50
	" " "	25	Three	86T	1.60	86T	1.80
	Porcelain Bell	25	Single	87	1.60	87	1.80
	Out. Box Bell	25		86ER	1.60	86ER	1.80
	Heavy Duty	50	8-16-24	88	4.30	88	4.80
	" " "	75	"	89	6.40	89	7.10
	" " "	100	"	90	7.50	90	8.30
	Toy	50	3 to 18	870	3.60	870	4.30
	" " "	75	3 to 24	871	5.95	871	7.15
	" " "	100	2 to 30	872	8.95	872	10.75

G. E.	Bell Residence	12 Volt	2332	1.30	192340	1.50
	Box Type	12 " "	2488	1.45	2490	1.70
	Heavy Duty	50 8-16-24	2333	5.10	2339	7.10
	" " "	100 10-20-30	2334	8.25	2340	11.30

HEMCO	Mold. Single	25 10 Volts	221	1.35	.....	.....
	Mold. 3 Circuit	25 6 to 18V.	222	1.55	.....	.....
	Steel Sgl. Cir.	25 10 Volts	225	1.25	235	1.35
	Steel 3 Circuit	25 6 to 18V.	226	1.35	237	1.50
	Box Type Sgl. Cir.	25 10 Volts	227	1.35	.....	.....
	Box Type 3 Cir.	25 6 to 18V.	228	1.55	.....	.....

WIZARD	25 10 Volt	230-101	1.30	230-102	1.50
Nucode	25 10 Volt	230-111	1.45	230-112	1.65
Tri-Volt	25 6 to 18V.	230-121	1.45	230-122	1.65
Porcelain		230-131	1.45		
Little Jeff Toy	50 5 1/2-13	535-101	3.95	535-102	5.00
Midget Toy	75 5 1/2-22	535-121	4.75	535-122	6.05
Model 2 Toy	100 5 1/2-23	535-131	7.15	535-132	9.10
Model 3 Toy	150 1-30	535-141	9.00		
Heavy Duty A	50 6 to 20	231-101	5.15	231-102	7.30
" " B	75 6 to 20	231-111	7.70	231-112	10.20
" " C	125 6 to 24	231-121	10.25	231-122	12.95
" " E	250 6 to 24	231-141	20.80	231-142	25.65

KILLARK	Blue Bell	10 8 Volt	6166	1.25	.....	.....
	Tri-Volt	20 6 to 16	6163	1.45	6126	1.40
	Box Type	10 8 Volt	7166	1.45	.....	.....
	Porcelain Case	10 8 Volt	4166	1.45	.....	.....

Greyhound	25 8 Volt	L-160	1.30	L-125	1.50
Type A	25 8 Volt	A-160	1.40	A-125	1.60
Tri-Volt	25 6-8-14 V.	A-1360	1.55	A-1325	1.80
Porcelain	25 8 Volt	AP-160	1.45	AP-125	1.65
Box Type	25 8 Volt	OB-160	1.45	OB-125	1.65
Toy Junior	50	50	3.30	50	4.00
" Genesee	75	75	4.95	75	6.00
" Senior	100	100	6.60	100	8.00
" Niagara	150	150	8.80	150	10.60

S-1 Sgl. Volt	15	S-1	1.30	.....	.....
S-3 3 Volt	15	S-3	1.40	.....	.....
D-1 Sgl. Volt	25	D-1	1.50	.....	.....
D-3 3 Volt	25	D-3	1.70	.....	.....
HD-1 3 Volt	50	HD-1	5.35	.....	.....
EHD 3	100	EHD-1	6.65	.....	.....
" 3	200		18.00	.....	.....
" 8	300		21.00	.....	.....

NOTE: For 220 Volt Transformers add 20% to above prices.







OOD contractors

everywhere protect their reputations with that margin of safety provided by A-A. • Why not? Reputations are made by those who have the FEWEST FAILURES due to workmanship or materials. • We've noticed that good contractors get the GOOD jobs; then use A-A. • Approved and specified by leading architects and engineers.

## A-A WIRE COMPANY

BRANCH OF GENERAL CABLE CORPORATION

### Offices

BOSTON  
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CHICAGO  
CINCINNATI  
ATLANTA

NEW YORK  
PHILADELPHIA  
BIRMINGHAM

DETROIT  
ST. LOUIS  
CHARLOTTE

(Continued from page 36)

old-fashioned shore dinner, a boat trip, a visit to the General Electric Plant at Lynn, baseball under artificial light and an old-fashioned barn dance in costume. The local committee has generously provided entertainment for the ladies during the times that the delegates will be in session.

\* \* \*

### Opened Red Seal Program with a Bang

During the first month and a half of activity the Manitoba (Canada) Electric Association had secured the cooperation of a number of builders, it was stated in the Association's annual report just issued, and that more than 250 Red Seal residences and apartments are already assured.

\* \* \*

### Kansas City Studying Credit Control

At a meeting of the Kansas City Electragists and electrical wholesalers on June 4, each group voted to appoint a committee to investigate the credit plans in Detroit and other cities. Contractors have been for some time insisting that a plan of credit control be put in force locally.

The local electrical contractors have taken steps to affiliate as a chapter of the Association of Electragists and have elected the following officers: Harry C. Evans, president; W. T. McAuley, vice-president; J. F. Costelow, secretary; and E. H. Clark, treasurer.

"The space you could spare for us," writes President Evans, "would not hold all the items of our accomplishments since we organized. We are elated over our beginning and are very optimistic."

### Credit Control State-Wide in Florida

The Detroit Credit Plan became state-wide in Florida on June 1, with credit terms of 1st to 15th purchases discountable on the 25th, and 16th to 31st purchases discountable on the 10th of the following month. Preceding month's purchases are on net to the last day of the following month and after that C.O.D.

The plan went into effect with seven jobbers.

\* \* \*

### Retail Failures Caused by Easy Credits

An examination of liabilities of Louisville bankrupt grocers, reported by the Bureau of Foreign and Domestic Commerce, indicates that over-extension of credit was an important cause of retail failures. In one instance there were more than fifty creditors, most of them wholesalers, jobbers and manufacturers. In another instance there were over forty creditors, among whom were wholesalers with bills of \$400 and \$500 each.

\* \* \*

### Discuss Cooperation on Boat Trip

Cooperation with all of the other electrical interests was the basis for the discussion at the annual convention of the Southern Division, California Electragists held in May aboard the Steamship Ensenada. Power companies, manufacturers, jobbers and inspection interests were all represented in the discussion.

The activities of the division under the new manager, Frank J. Connolly, were outlined and

showed intensive efforts to improve contracting conditions.

The following officers were re-elected: Frank McGinley, president; Roy Foulkes, vice president; R. McCormack, secretary-treasurer.

\* \* \*

### Store and Window Lighting Campaign

A drive will be made this fall under the auspices of the Niagara Frontier Electrical League to tap a market of \$1,500,000.00 in store and window lighting sales in Buffalo and surrounding territory. The work will be done through member electrical contractors.

The territory has been broken up into thirty-three districts. Between now and October 1, it is the purpose of the league to have a model lighted store in each of the districts, these model stores to be sold by contractors.

Model stores must have a lighting intensity of 15 ft.-candles throughout the entire display space by means of lighting units generally recognized by the industry as suitable for the purpose and properly spaced. The store windows on the main streets must have a minimum of 240 watts per lineal foot for the proper kind of equipment and in other locations 200 watts per lineal foot.

On October 1 a direct-by-mail, newspaper and radio broadcasting program of advertising will be started, directing the attention of the public to the thirty-three model stores. It is anticipated that the campaign will provide a tremendous amount of business for the electrical contractors of Buffalo.



Kansas City Electragists Discussing A.E.I. Chapter with General Manager L. W. Davis



**A BORN TREASURER:**—On the left is H. G. Street, president of Memphis Electric Co., Memphis, Tenn. The others are J. G. Morton and R. A. Street, a brother of H. G. Someone remarked that "H. G." must surely be trustworthy as he is treasurer of both the local chapter of Electragists and the Memphis Electrical League.

### New Erie League Officers

The annual meeting of the Electric League of Erie, Pa., held on June 4, elected the following officers: Herbert Garvin, chairman; Frank H. Holman, vice-chairman; and C. R. Van Atta, treasurer. The officers and George K. Sehlinger and Edward A. Semmence constitute the board of directors.

Out of the forty-one contractors in Erie, seventeen are members of the league.

\* \* \*

### Davis on Trip to Pacific Coast

General Manager Laurence W. Davis of the A.E.I. is now on an extended western trip to the Pacific Coast after having filled engagements in the South.

Mr. Davis left New York on June 20 and held meetings with the local chapters in Atlanta, Birmingham, Shreveport, Dallas and Fort Worth, besides attending the annual state meeting of the Mississippi Electrical Association at Jackson on June 24 and 25.

His itinerary on the Pacific Coast includes meetings at San Diego on July 1, Los Angeles July 2, and Santa Barbara on July 3, and the following six days he will spend in Northern California including a visit with President Chamblin at San Francisco.

Leaving California he will hold meetings with the electragists in

Portland, Ore., Seattle and Spokane, Wash., and on the return trip East will stop for a meeting with the electragists in Minneapolis on July 16.

\* \* \*

### Code Rules for "Talkies"

The preparation of rules for wiring for sound reproduction in motion pictures is contemplated by the electrical committee of the N.F.P.A. Any suggestions should be sent to A. R. Small, chairman, Electrical Committee, 109 Leonard St., New York, N. Y.

### Advertising Contractor Members

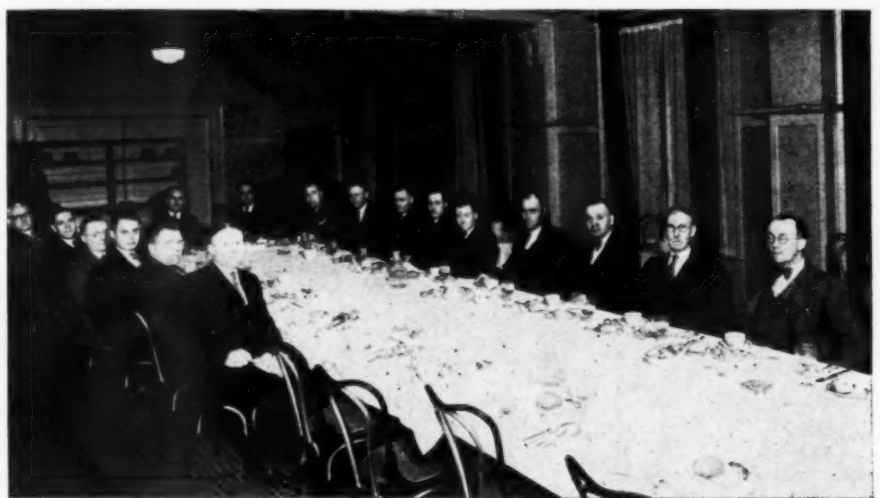
As a means of encouraging architects, builders and others to patronize league members, the field representative of the Electrical League of Colorado, now carries on the reverse side of his calling cards, a complete list of all contractor members of his league.

\* \* \*

### New York to Hold National Electrical Show in Fall

A national exhibit covering electrical applications for industrial, commercial and household purposes will be held in New York on October 7 to 12. Special attention is being paid to the trade and every day the hours from ten in the morning until two in the afternoon will be set apart solely for them.

The show is being held under the joint auspices of the Electrical Board of Trade of New York and the New York Electric League who have set up the following committee: Theodore H. Joseph, chairman, E-J Electric Installation Co.; S. E. Kimball, Kimball Electric Co.; W. B. DeForest, Graybar Electric Co.; Harry A. Hanft, electrical contractor; W. B. Pierce, Edison Electric Appliance Co.; Hugo Tollner, Tollner Electric Co.; W. S. McClure, New York Edison Co., and Earl White-



### ELECTRAGISTS AND UTILITIES WORK OUT MUTUAL PROBLEMS:

—Members of the Des Moines Chapter of the Association of Electragists met central station representatives at a dinner recently to discuss the subject, "The Relation of Appliance Merchandising to Public Utilities," and to remove differences and promote harmony between these two branches of the industry. Methods of installation of meters and proper ways of making service connections to their lines, were the points of emphasis which the public utility representatives stressed in order to save time and expense on the job and to avoid trouble.





## INSTALLED IN $\frac{1}{4}$ THE ESTIMATED TIME

On a certain big lighting job (name of building, jobber and contractor on request) the bidder estimated \$1.00 per fixture as the cost of installing ceiling units.

When the work was completed it was found that the actual time-cost of installing "Red Spot" Bronze Embossed Ceiling Units was only 25c per fixture.

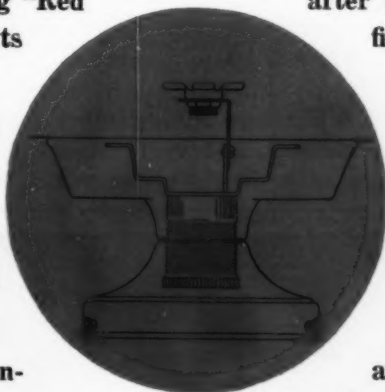
which provides a quick means for hanging under any and every condition. With the straps in place on the ceiling and the socket connected to circuit, the room may be lighted during the completion of building construction and decoration. Then, after all the "dirty work" of building is finished, the fixture shells are taken from their boxes, as fresh and per-

### RED BRONZE EMBOSSED

This saving of 75c per unit in labor cost was all gravy for the contractor.

Labor-saving is *built into* the Wakefield Bronze Embossed Line. Examine the cross section diagram and you will see how and why.

The ceiling strap, carrying a special porcelain socket, with threaded metal cover, has slots, bayonet holes and adjustable vertical tongue connection



### SPOT CEILING UNITS

fect as when they left our factory, and are installed by simply screwing a threaded collar onto the socket cover—which is about as quick and easy as screwing the top on a mason jar.

We claim that Wakefield "Red Spot" Hangers and Ceiling Units "*cost less on the ceiling*"—which is just another way of saying that they *pay more profit* to the Lighting Contractor.

**The F. W. Wakefield Brass Co., Vermilion, Ohio, U.S.A.**

horne, president, Electrical Board of Trade of N. Y., and New York Electric League. Fred W. Payne and Charles F. Roth are co-managers of the exposition.

\* \* \*

### Kuhlemeyer in Cincinnati

John Kuhlemeyer having completed his work with the electrical contractors in Akron, O., has started a similar effort with the electrical contractors of Cincinnati under the auspices of the local Electrical Club.

\* \* \*

### Long Island Association Progressing

The Long Island Master Electrical Contractors Association, 41-26 58th St., Woodside, Long Island, is progressing rapidly in an educational and beneficial nature for the contractors of Long Island. This association has a large attendance at its meetings every Monday night. Among the committees in the association which are active are the code, educational, grievance, estimating and credit committees.

The officers of this association, which includes 80 per cent of the union contractors on Long Island, are: H. Joseph Barth, president; Wm. Hanhau, vice-president; B. Greenwald, chairman board of governors; and Harold Story, secretary.

The members of this association held an interesting and enjoyable outing on June 29 at Belmore, L. I.



**GET TOGETHER ON BIG DENVER JOB:**—Clark Rider, of Denver, (Colo.) Electric Co., was holding a confab at the new Montgomery Ward building, where his firm is making all the electrical installations. Left to right: Joe Dayton, Denver Electric foreman; John Maltbiedt, city electrician; Mr. Rider, and Mr. Goodrich, engineer of the building.

### Limits Number of Outlets per Circuit

The building code of Port Arthur, Tex., has been amended to restrict the number of outlets in residences, hotels and hospitals to not more than eight per circuit, and in business houses, schools or churches to not more than four per outlet.

It is also provided that all cabinets and conduit installations be grounded.

\* \* \*

### Fire Boxes for Rhode Island Institutions

Recent legislation in the State of Rhode Island requires that every asylum, almshouse, hospital and orphanage having more than ten inmates, and every school located in a district having a gen-

eral fire alarm system, shall itself have a fire alarm box installed. The cost of these fire boxes will be borne by the owners of the buildings.

\* \* \*

### N.E.L.A. Urges Development of New Markets

Those in attendance at the various sessions of the N.E.L.A. Convention held at Atlantic City, N. J., May 31 to June 7, were impressed with the importance of the need for a market development program.

An approach to saturation seems to be in sight in the established markets for electricity while at the same time the number of kilowatt hours sold for each dollar of investment is declining. The answer cannot be in a raise of rates but seems to be in the development of new markets.

Marshall E. Sampson, chairman of the Commercial National Section, brought out this fact:

"To protect investments made in transmission lines interconnecting smaller communities and extending into rural districts where there exists little industrial activity, requires larger volume of electric service in small town homes and on the farm. To successfully meet these obligations we must sell more kilowatt hours through intensive development of new markets that will improve the load factor. To bring about and proportionately enjoy extensive development of these new markets.



**POWER SPECIALISTS:**—William C. Krauth, John Huber, Art Kleinstuber, Bob Campbell and Fred Ries, superintendent of Wm. C. Krauth Electric Co., Louisville, Ky., specialists in power work, standing outside a factory that they are wiring.

for a bigger profit in wiring, figure  
**YAXLEY**  
 Radio Convenience Outlets

*on Every  
House Wiring  
Job*



**No. 136**

Aerial and Ground Connections—  
Brass, \$1.00; Bakelite, \$1.10



**No. 142**

Two Loud Speaker  
Connections—  
Brass, \$1.75;  
Bakelite, \$1.85

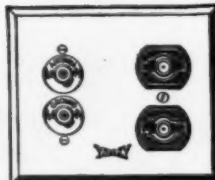


Lake Lane Apartment Hotel  
CHICAGO

Wired for radio with Yaxley Radio Convenience Outlets by Radio Contractors, Chicago, Roy Baumann, President

**No. 241**

Aerial and  
Ground and  
A. C.  
Connections—  
Brass, \$2.00;  
Bakelite,  
\$2.20



You can add two or more radio convenience outlets to every house wiring job, and in apartment houses, hotels, hospitals and schools jobs are being let daily running into thousands of extra radio convenience outlets.

For every radio wiring installation need there is a Yaxley Radio Convenience Outlet.

Don't attempt to build up your radio convenience outlet. Get a Yaxley Approved Radio Products catalog and select the outlet ready-made for the job.

For special requirements, send us full information and we will gladly help you to solve your radio wiring installation problems.

Send to-day for NEW illustrated catalog

**YAXLEY MFG. CO.**  
9 So. Clinton St., Chicago, Ill.

RHEOSTATS — VOLUME CONTROLS — RESISTANCES — JACKS — PHONE PLUGS — SWITCHES





# MASSIVE and RICH In Appearance

## Special Cast Loop and Flaring Ornament

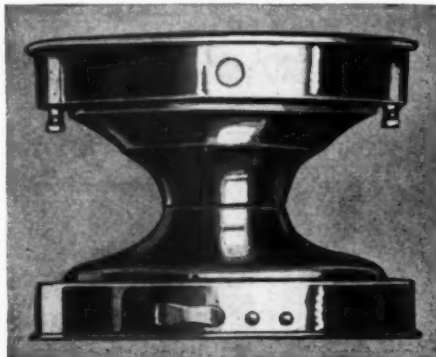
This adaptable hanger is finished in statuary bronze with gold effect on cast parts high lighted, incorporating the exclusively patented AMCO Safety Holder.



## Safety Holders

Lock the glassware into position by simply placing the globe into fitter and closing the lever on holder . . . SAFE and SPEEDY installation.

A complete line of highest quality hangers that enables an electrical contractor to step in anywhere and land profitable business . . . AMCO hanger equipment comes under different classifications and various finishes for specified use . . . The same high quality prevails thruout the entire line . . . You take no chances and you always make money.



Send for Catalog describing and  
----- illustrating values of our entire line -----

Name .....

Address .....

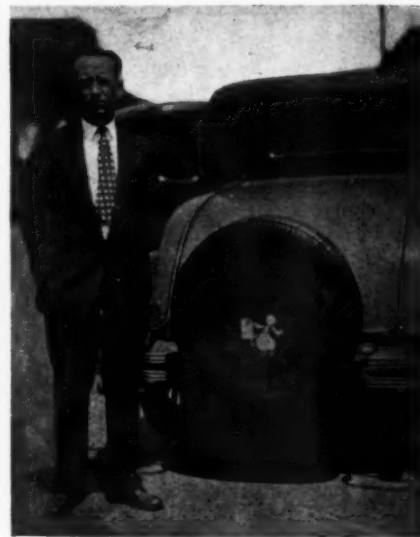
City ..... State .....

ACT NOW—Mail this coupon today to

## ART METAL COMPANY

1800 E. 38th St., Cleveland, Ohio

"Hanger Specialists"



**NOVEL WAY OF ADVERTISING RED SEAL PLAN:**—Not only the electrical contractors but practically all the members of the Tri-Cities Electrical League, wear these neat tire covers to spread the gospel of good wiring. Here is Roger B. Kellogg, league manager, who furnishes the covers to members.

is no boy's play. In this undertaking we are forced to meet keen, well-organized competition from other industries, equally anxious to grow and prosper."

Matthew S. Sloan, first vice-president of the association, presented figures collected by the statistical department of the association and by the U. S. Census Bureau covering the entire electricity supply industry of the country with inter-company sales eliminated. These figures showed that the number of kilowatt-hours sold for each dollar of investment declined steadily between 1922 and 1927; that the average price per kilowatt-hour sold has declined during the same period; that revenue per dollar of investment has decreased; that the rate of capital turn-over has decreased from once in 4.72 years to once in 5.58 years; and that the installed generating capacity has increased 72 per cent. The investment per kilowatt of installed generating capacity has increased from \$312 to \$367. Balances available for interest, dividends and surplus show that the average rate of return in 1922 was 7.58 per cent and only 7.48 per cent in 1927.

After interpreting these facts and summarizing the situation, Mr. Sloan asked the question:

# Decades of Unfailing Protection!



The Hotel New Yorker, New York City, where hundreds of tons of Youngstown-Buckeye Conduit affords permanent protection to electrical wiring.

Architect—**SUGERMAN & BERGER**

Electrical Contractor—**JANDOUS ELECTRIC EQUIPMENT CO.**

Elevator Contractor—**OTIS ELEVATOR CO.**

**Y**OUNGSTOWN-BUCKEYE Conduit has all the factors which make for permanence and ease of installation. It is made of the highest grade of steel; it runs consistently uniform; it is tough; it can be bent easily to take the most difficult twists and turns; it has a durable, moisture-proof electro-galvanized or enamel coating which will not chip or crack upon bending; and it is easy to thread.

The combination of all of these features has made Youngstown-Buckeye Conduit the leader in its field. Architects and engineers specify it because it affords permanent protection to electrical wiring. Electrical contractors and electricians prefer it because it is easy to install—and makes a good job better.

There is only one Youngstown-Buckeye Conduit. Insist on the genuine for your work.

## THE YOUNGSTOWN SHEET AND TUBE COMPANY

*One of the oldest manufacturers of copper-bearing steel, under the well-known and established trade name "Copperoid"*

General Offices: YOUNGSTOWN, OHIO

### DISTRICT SALES OFFICES:

ATLANTA—Healey Bldg.	NEW ORLEANS—Hibernia Bldg.
BOSTON—80 Federal St.	NEW YORK—30 Church St.
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CHICAGO—Conway Bldg.	Franklin Trust Bldg.
CINCINNATI—Union Trust Bldg.	PITTSBURGH—Oliver Bldg.
CLEVELAND—Union Trust Bldg.	SAN FRANCISCO—
DALLAS—Magnolia Bldg.	55 New Montgomery St.
DENVER—Continental Oil Bldg.	SAVANNAH—M and M T Terminals
DETROIT—Fisher Bldg.	SEATTLE—Central Bldg.
KANSAS CITY, MO.—	ST. LOUIS—
Commerce Bldg.	Shell Bldg., 13th and Locust Sts.
MINNEAPOLIS—Andrus Bldg.	YOUNGSTOWN—Stambaugh Bldg.
LONDON REPRESENTATIVE—The Youngstown Steel Products Co., Dashwood House, Old Broad St., London, E. C. England	

# YOUNGSTOWN

# BENJAMIN-STARRETT

## Heavy Duty Lighting Panelboards and Steel Cabinets



Safety Front Type Heavy Duty  
Benjamin-Starrett Panelboard

The wide variety of circuit arrangements makes it easy to select just the right panel to meet any residence, commercial, institutional or industrial wiring requirement.

Many exclusive Benjamin-Starrett features cut installation time to the minimum, assuring the contractor a sure profit on his panelboard jobs.

The unit sectional construction and individualizing of parts provide the greatest accessibility and flexibility, assuring the highest type of continuous service at a minimum of maintenance expense.



**FREE**—This 80-page catalog of complete listings and illustrations. Send for it today.

**Benjamin Electric Mfg. Co.**

General Offices and Factory

DES PLAINES, ILL. (Chicago Suburb)

New York

Chicago

San Francisco

### Special Features

#### Easy to Install

4-inch wiring space on all four sides; adjustable trim clamps; extra large panel mounting holes; slip-off barrier easily removed; one-piece panel back.

#### Quick Delivery

Boxes carried in stock at local distributors and district warehouses. Unit section construction insures quick assembly of panelboard.

#### All Parts Removable from Front

Should replacement of parts ever become necessary, the switches and fuse receptacles are individual units which may be removed without disturbing the trim. Replacements or changes in branch circuits made without removing panel from box.

#### Heavy Duty Switches

Branch circuit tumbler switches on both two-fuse and one-fuse panels are heavy duty type—30 ampere, 250 volts.

#### Three Styles of Cabinets

Safety Front, Protective Front and Open Front to suit any specific requirement.

"Shall we increase our sales or our rates?", stating that this question is distinctly and sharply pertinent.

"The answer to this question is," he said, "that we must increase our sales. We must sell more kilowatt-hours for each dollar of investment, making our equipment work harder and steadier, and the place to sell more service, in my judgment, is in the home."

\* \* \*

### Birmingham Electragists Getting Results

Reports of great progress are coming from the Jefferson County chapter of The Association of Electragists, Birmingham, Alabama. The chapter has a full-time paid secretary in the field.

Most important results have come from improved working conditions with the local utility. As



J. S. O'Keefe

a result of the negotiations, the power company is refraining from cut-throat competition with the contractors in lighting work. Under the plan, the power company lighting department makes a fixture layout, specifying the type but not the name of fixtures and sends this information to all contractors and jobbers. The contractor is protected by the jobber and on all time payment work by the power company. The plan is contingent on contractors buying only through local jobbers and the jobbers in turn submitting their lighting units to the power company for classification.

At the present time, the electra-



# Turn to this catalog for Safety Switch help and information . . .



Install protection on  
every job—Westing-  
house Safety Switches

**O**N jobs like those pictured—on any job where safety switches are to be used—you'll find the Westinghouse Safety Switch Catalog a help. It helps you find the switch of the proper characteristics. It gives you accurate dimensions and wiring diagrams that make it easy to lay out a job properly. It helps you in figuring your costs for estimates. Westinghouse Switches cost no more than others.

And then it can go with you and help you sell the job on which you are bidding.

The Sign of a  
Westinghouse Dealer

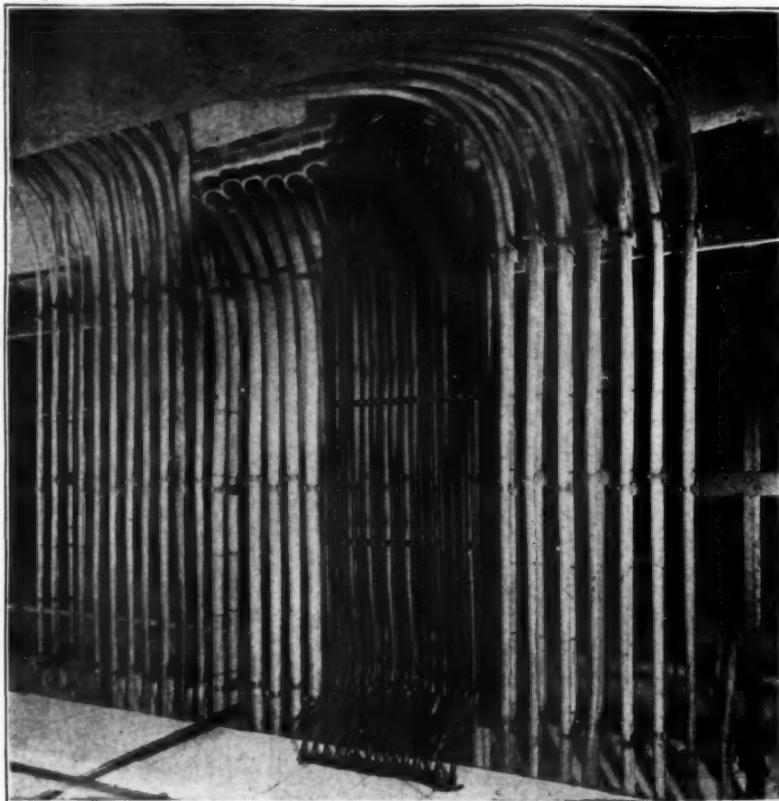


You can show, with the catalog, the advantages of the diamond-pointed jaw, and the distinctive quick-make and quick-break mechanism on Westinghouse Safety Switches. With its help you can give a sales-clinching explanation of the arc quencher and its operation. Put your Westinghouse Safety Switch catalog to work for you. If you do not have a copy of this catalog, write for one.

WESTINGHOUSE ELECTRIC & MFG. COMPANY  
Merchandising Department  
Safety Switch Section                      Mansfield, Ohio

# Westinghouse

# best in close quarters - - -



## MINERALLAC CABLE AND CONDUIT HANGERS

*are approved by the Underwriters' Laboratories*

Electrical contractors everywhere find Minerallac Cable and Conduit Hangers conquer all difficulties and make a finished job that stands up—Open wiring, conduit and cable may be rapidly installed and very compactly arranged with these hangers.

### JAPANNED OR GALVANIZED

From  $\frac{3}{8}$  to  $2\frac{1}{2}$  inches, both inclusive, pipe measurement. . . . Made of best quality materials. Minerallac hangers will stand the weight and they will endure under severe conditions. Minerallac products cost no more than others. Order today from your jobber, or write us direct, giving us his name.

**MINERALLAC**  
**ELECTRIC COMPANY**  
 25 N. Peoria St. . . . Chicago

gists and power company are working on the range installation problem which they expect to have well in hand shortly.

The chapter members are now doing 86 percent of the work in the city and considerable throughout the state, and it is anticipated before the year is out 95 percent of the worth-while Birmingham contractors will belong to the Jefferson County Chapter.

The association is also attempting to secure separation of electrical work from general contracts on state school work.

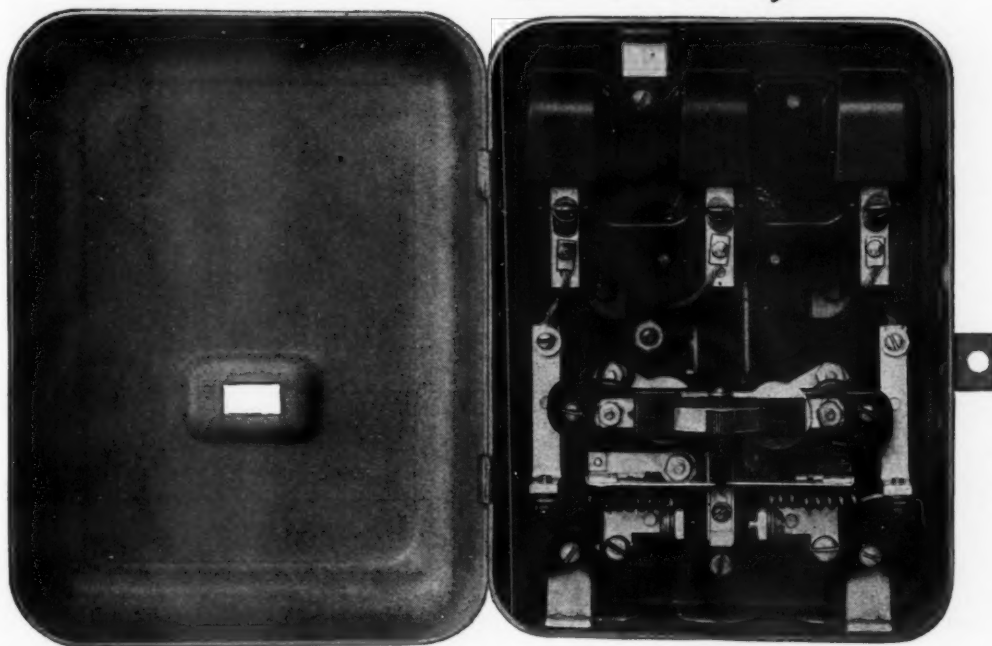
The officers are: J. S. O'Keefe, of O'Keefe & Lyons Elec. Co., president; D. S. Litton, Litton Elec. Co., vice-president; M. R. Thomasson, Dixie Elec. Construction Co., treasurer. Sam Grossberg, formerly with Southern Electric Company, is the paid secretary who devotes his full time to the work. Mr. Grossberg is a native of Alabama. He has successfully carried on the electrical contracting business for eight years, both in Canada and in Birmingham.



**FORD GETS ORIGINAL EDISON GALVANOMETER:**—Henry Ford, who in connection with his gigantic preparations for the celebration of the fiftieth anniversary of his friend Thomas A. Edison's invention of the incandescent lamp is erecting at Dearborn a museum containing practically all of the original apparatus used by Edison in developing the lamp, visited the Edison Lighting Institute of the Edison Lamp Works at Harrison, N. J., on May 23, in order that he might personally take back to Dearborn the original galvanometer used by Edison. The galvanometer was presented to Mr. Ford by E. R. Scales. The galvanometer is a crude instrument consisting of two coils inclosed in a glass case, between which is suspended a magnetized needle which indicates by its motion the direction and size of electric current passing through the coils. It was used by Edison in connection with a Wheatstone bridge for measuring resistances of carbon filaments.

# Another Diamond Magnetic Switch

[TYPE KXR]



**A** GAIN DIAMOND E presents an improved Magnetic Switch—Type KXR. Exclusive in design, it has many special features that make it the desirable magnetic switch for single and polyphase Induction Motors. It answers the need for a compact, trouble-proof switch.

With utmost compactness and convenience Type KXR Switch offers the greatest economy in installation and service ever achieved in a magnetic switch. Its refined design and careful manufacture insure perfect operation for all services.

These very desirable features are included in KXR: Panel Base and Arc Shields of Bakelite, extremely light and durable. Big copper contacts; large wiping action. Connects directly across-the-line in starting. Inverse time limit and thermal overload relay with interchangeable heating elements. Lever of brilliant red Bakelite set integral with the panel. Small in size—only 3 supporting screws necessary. Handsome drawn cabinet finished in black, baked enamel. No sharp corners.

KXR Improved Type Magnetic Switch effects a substantial saving in space, time and labor on any Induction Motor Installation.

Price list and complete Specifications, including Wiring Diagrams, upon request.

## Special Features

### Easily Removable Panels

The KXR panel may be removed within a few seconds—immediate accessibility at all times.

### 3 Times Ordinary Wiring Space

Extra large wiring space behind the panel makes installation and servicing many times quicker and easier than old-style switches.

### Knockouts on all Sides and Back

16 Knockouts on back and sides to meet every wiring requirement.



### Just the Size of Your Hand

Your outspread hand easily covers the KXR Switch. It can fasten right on the machine it operates. Smaller than most switches but has three times greater wiring space.

#### FACTORIES

Los Angeles, Calif.  
1318-1362 E. 16th St.

Houston, Texas  
1517 Fannin St.

**DIAMOND ELECTRICAL**  
**MANUFACTURING COMPANY INC.**  
*Associated Manufacturers*

#### FACTORIES

Milwaukee, Wis.  
926 Juneau St.

San Francisco, Calif.  
1264 Folsom St.

#### Distributing Office

Portland, Oregon  
218 Commonwealth Bldg.

## Union Electric Mfg. Co.

Milwaukee, Wisconsin

Sales Offices and Stock

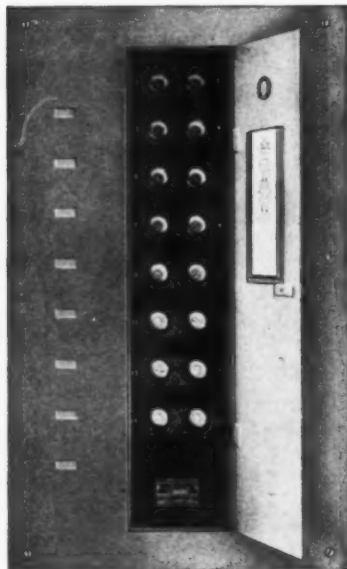
#### Distributing Office

Salt Lake City, Utah  
228 South West Temple St.

Cleveland, Indianapolis, Detroit, Buffalo, Baltimore, New York, Philadelphia, Boston, Toronto, Montreal, St. Louis, Toledo, Grand Rapids, Chicago, Cincinnati, Pittsburg, New Orleans, Birmingham



# A-S-E FUSE-CABS



No. 3316

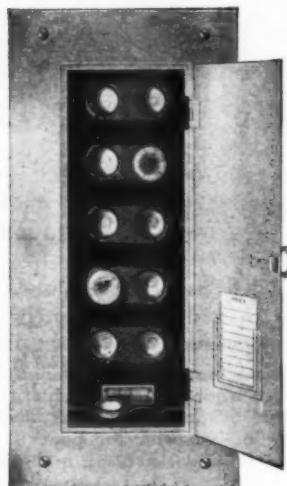
## Style "DS"

Knockouts in trims for branch-circuit switches. Convenient switch-mounting strips eliminate unsightly and inconvenient mounting of branch switches direct to the trim—a notable Fuse-Cab feature.

## Style "D"

No provision for branch-circuit switches. Width ample for all wiring needs—plenty of knockouts—exclusive plaster adjustment.

Styles "D" and "DS" Fuse-Cabs are supplied in sizes ranging from two to twenty-four circuits—in both flush and surface types. Fuse-Cab features include: Copper bus-bar construction—straight wiring—convenient reversible panel—gray lacquer trim on flush types.



No. 3040

Write for your  
copy of new  
Fuse-Cab and  
steel box catalog  
D-1.

**ALL-STEEL-EQUIP CO.**  
**AURORA, ILLINOIS**



**HEAD OF CONTRACTORS' ASSOCIATION:**—P. A. Schlueter, Davenport, Iowa, with Mrs. Schlueter, who takes care of the office and store. Mr. Schlueter is president of the Quad-Cities' Electrical Contractors Association, which takes in East Moline, now quite a city.

## Red Seal Revised in Youngstown

A new set of Red Seal specifications has been issued by the Electrical League of Youngstown, Ohio, modifying the old rules, making them less restrictive.

E. J. Beil, executive manager of the league has outlined these changes for ELECTRICAL CONTRACTING as follows:

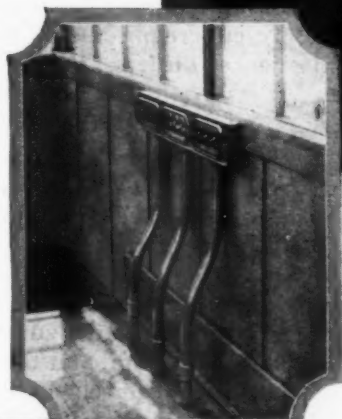
*Substitution of Side Outlets for Ceiling Outlets:* The old specification required ceiling outlets in all principal rooms. In view of the fact that in many homes erected today the ceiling height in the first floor room is 8 feet, or less, it becomes quite a problem to use ceiling fixtures, particularly in the living room. It was therefore decided to waive the ceiling outlet requirement in all principal rooms, with the exception of the kitchen and dining room, and accept as a substitute a stipulated number of side outlets. This should make the plan flexible enough to satisfy architects and building contractors who refuse to specify or install ceiling outlets in such rooms as the living room, bedrooms, etc. We shall, of course, continue to

# For Airport Lighting - "Diamond H"

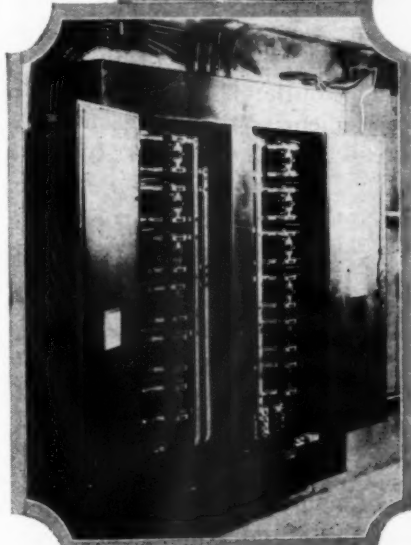
## Remote Control Switches



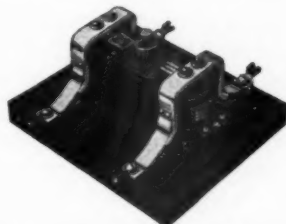
The Albany, N. Y., Airport (night scene). At left are momentary contact switches in observation shelter.



Daylight picture of the floodlights



The Remote Control Panel equipped with "Diamond H" Type F Remote Control Switches.



THESE excellent views show the complete working of "Diamond H" Remote Control Switches for Airport Floodlighting.

At the right are the floodlights situated about the flying field.

These floods are connected by simple wiring to the momentary contact switches in upper left. These switches control the circuits shown on the panelboard at left thru the Type F "Diamond H" Remote Control Switches which are located in the circuits.

These Remote Control Switches are built to handle the high wattage of the floodlight.

This method of control is positive and absolutely reliable and dependable.

The wiring of such an installation is made much simpler by the use of these "Diamond H" Remote Control Switches, since it is not necessary to carry main conductors to the many floods about the field.

Send for Bulletin No. 10, which completely describes these switches and their uses.

THE HART MFG. CO., Hartford, Conn.  
BOSTON NEW YORK  
CHICAGO MINNEAPOLIS  
DETROIT  
TORONTO

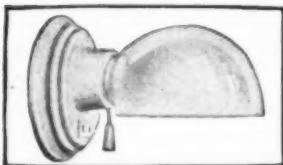
# DIAMOND H SWITCHES

## Sales and Profits Grow



Electrical dealers and contractors are increasing sales and profits with GUTH-LITE. Beauty of design and remarkable lighting efficiency are available at a surprisingly low price.

GUTH-LITE eliminates all ceiling shadows and the adjustable reflector controls the direction of the light vertically and horizontally. These



features make it ideal for office, factory, store, hotel or school.

Aglite, the porcelain enamel unit, is easily cleaned. Will not rust, tarnish or peel. Easily installed, low in price.

**The EDWIN F. GUTH COMPANY**  
DESIGNERS • ENGINEERS • MANUFACTURERS

Lighting Equipment  
St. Louis, U.S.A.

recommend ceiling outlets where it is feasible to install them.

**Mantle Requirement:** The old specification required two side outlets or two convenience outlets. Side outlets above the mantle cannot be considered as substitutes for convenience outlets on the mantle, as the convenience outlets in this case provide a connection for the electric clock in addition to connections for torchieres and other mantle lighting equipment. Therefore, in all cases, at least one convenience outlet must be installed. Our present requirement is two convenience outlets, but if two side outlets are installed above the mantle, only one convenience outlet is required.

**Convenience Outlet Requirement for Sun Room:** The old specification required a minimum of two convenience outlets in the sun room. It was argued that portable lamps are used as freely in the sun room as in the living room, and the convenience outlet requirement should be the same for both rooms. Our present requirement for the sun room is a minimum of two convenience outlets, but there must be a convenience outlet for each 15 ft. of wall space, or major fraction thereof.

**Special Circuit of No. 12 Wire:** The old specification did not require a special circuit of No. 12 wire. In the past we have advertised the Red Seal Plan as assuring adequate wiring for the convenient use of electric service in the home. We have, however, always felt that a convenience outlet for the ironer in the laundry connected to a circuit of No. 14 wire, feeding other light and convenience outlets, does not provide enough capacity for an electrically heated ironer. Yet in selling the job, we stress the point that this particular outlet is for the mangle. After operating the plan for three years, we could hardly drop the iron outlet from our specification, although we did give this thought some consideration. Our present laundry requirements are as follows: "One ceiling outlet and two convenience outlets," with the following note: "Convenience outlets for washer and ironer in laundry, two in kitchen, one in breakfast nook and at least one in dining room, shall

**THE ANSONIA ELECTRICAL CO.**

## ANSONIA No. 663

### Combination Bell and Buzzer

Enclosed within a case no larger than our No. 659 we have incorporated two single coil movements of rugged design with coin silver contacts, vibrating reed type, non-adjustable armatures and coils of ample size wound with Ansonia Enameled Magnet Wire. These movements will operate equally well on batteries or bell ringing transformers.

The bell is finished in French gray enamel only and fitted with a full buffed steel gong, copper and nickel plated.

The construction throughout is of the same high grade as all of the "ANSONIA QUALITY" line of bells.



Write for 64-page catalog E which illustrates our complete line of electrical house goods.

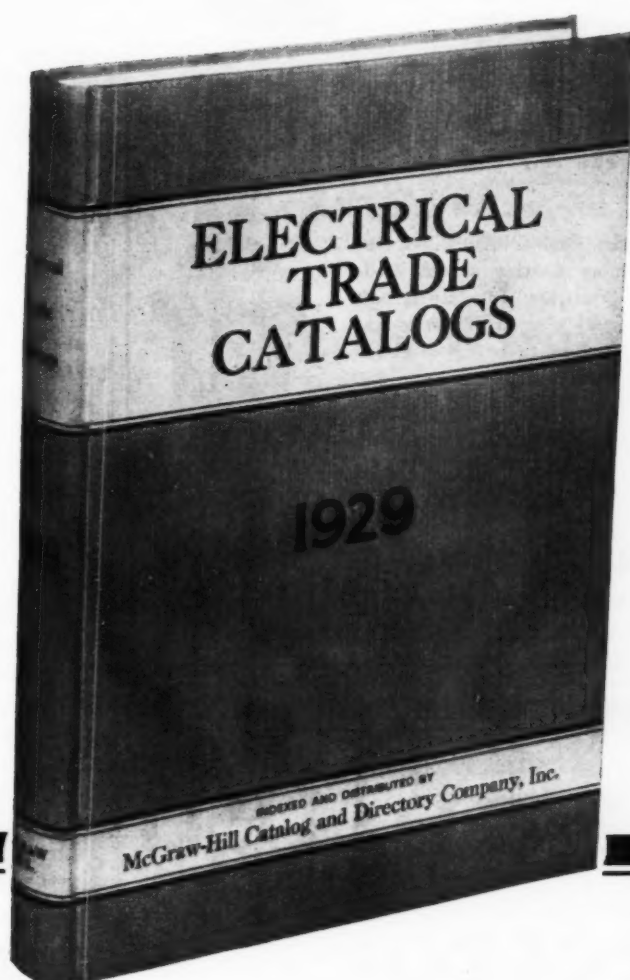
**THE ANSONIA ELECTRICAL CO.**  
ANSONIA, CONN.

ANNUNCIATORS — BELLS — BUZZERS — PUSH BUTTONS

**ELECTRICAL HOUSE GOODS**



## *The Catalog Place of the Electrical Trade*



*Look it up in this Binder!*

*The Green Book with the Orange Bands — whenever you need information on what or where to buy!*




# RUGGED RALCO RECEPTACLES





Type D



Type H

The Receptacles and Plugs illustrated have self aligning floating switch blade contacts, arc resisting Insulators, self closing covers and a separate grounding terminal. Very easy to wire. Made in 2, 3 and 4 Pole—30 and 60 ampere—250 and 600 Volts.

Write for Bulletin No. 101.

**Built Right . . . . Priced Right**

**Ralco Manufacturing Co.**  
Designers and Manufacturers  
125 No. Albany Ave., Chicago

be installed on a special circuit of No. 12 wire."

**Spare Circuit:** The old specification required one spare circuit for each five, or fraction thereof, existing circuits. We conscientiously believe that it will seldom, if ever, be necessary to install additional outlets in a Red Seal home, either large or small, as a large house greatly exceeds the Red Seal requirements and a small house is exceedingly well provided with outlets. If a refrigerator is added later, it may be plugged into either of the convenience outlets in the kitchen, or it may be connected to the special circuit of No. 12 wire. In most cases, there will be only seven or eight convenience outlets and no lighting outlets on this circuit. One spare circuit, therefore, is all that is necessary to take care of anything that may be added in the future. Our present specification requires only one spare circuit, regardless of the number of circuits.

The committee in charge of revising our specification, which was composed of four wiring contractors, the manager of The Contractors' Association, and the League staff, devoted much thought and time to this work and we have been assured that the new specification has the approval and wholehearted support of all members of the Contractors' Association.

# Zinc—applied electro- chemically



Approved  
by the  
Underwriter's  
Laboratories

After an extra cleaning, "GALVADUCT" is galvanized electro-chemically, the most effective way of protecting raw pipe against corrosion.

**Garland Mfg. Co.**  
Pittsburgh, Penna.



**A WAY TO SAVE TIME:**—The meter switches in this picture are wired with leads and the main fuse is inserted, while the knockouts are already removed from the ceiling outlet and the loom boxes. Wm. Evitts, of the Evitts Electric Co., Davenport, Iowa, sends all of these out on the job ready for use as shown.

### Principles of Fair Practice in Building Industry

During the past year the Association of Electragists has participated with twelve other national associations of the specialized building trades and the general contractors in the formation of the "Allied Construction Industries Committee."

The purpose of this Allied Committee broadly described, is to promote better understanding, more friendly relationship and closer co-operation between the trades in the operations and business transactions of construction. It is not an association and does not seek to institute or promulgate any new organization.

The A.E.I. has been represented upon this committee by Leo E. Mayer, executive committeeman of Chicago and A. C. Brueckman, executive committeeman of Baltimore, and also had as a special delegate at the recent meeting of the Allied Committee held in Cleveland, May 14, Henry M. Beatty of The Dingle-Clark Company of Cleveland.

The following report and "Principles of Fair Practice" were unanimously adopted at this Cleveland meeting and have been submitted for consideration and ratification by each of the member associations represented:

#### Introductory

The Allied Construction Industries Committee has undertaken the task of enunciating principles of fair practice, which will promote recognized ethical standards among all of the contracting groups and tend to eliminate irresponsible operators from the industry. This undertaking is the result of recognition by responsible general and sub-contractors that various unsound business practices have driven the trend of prices below cost of production throughout a great portion of the industry, and have penalized in all of the groups that type of contractor who may be properly designated as a master builder.

The committee has found that ill will and lack of co-operation between the general and sub-contractors in many instances is very acute and that neither can escape the injurious effects of such a condition. It believes that a great portion of the distrust and suspicion which the public holds toward all of the contracting groups arises out of their failure to work harmoniously together.

In an industry as complex as construction, it is apparent that no set of rules or practices can be launched and carried out immediately or established

# WADSWORTH

## Knows Your Installation Problems

ANY job you are working on, or have in mind can be installed in the least time by using Wadsworth Meter Service and Industrial Type Safety switches . . . and you know there will be no come-backs.

### Easy Wiring

Designed by an experienced electrical contractor, who knows your installation problems. Wadsworth Switches are the preference of all electrical contractors who have ever used them.

### Quality Service

Wadsworth Safety switches have no equal in design, construction, service and adaptability.

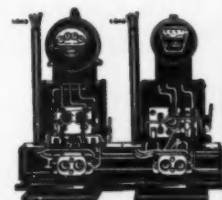
### Use Wadsworth Switches

and you will be a permanent Wadsworth booster . . . . . For your next installation demand Wadsworth Electrical Safety Switches from your jobber, or if he cannot supply you write us direct.

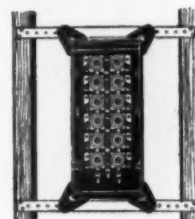
**The WADSWORTH ELECTRIC MFG. CO. INC.**  
Covington, Kentucky.

# WADSWORTH

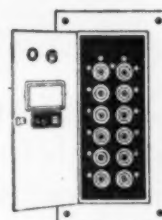
## METER SERVICE & INDUSTRIAL TYPE SWITCHES



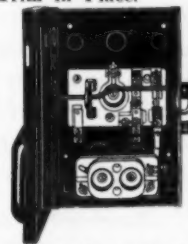
No. 362-372 Channel Type Switches with branch circuits arranged for single fusing.



No. 12-F Flush type roughed in—Note method of supporting.



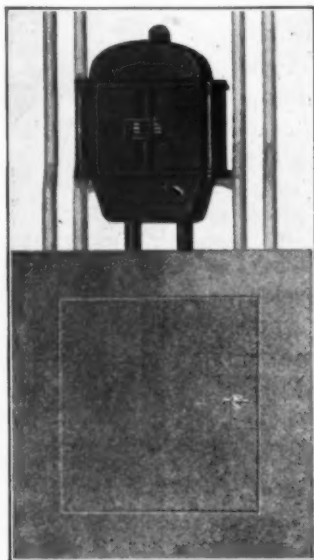
No. 12-F Aluminumized Trim in Place.



No. 238 BRANCH CIRCUIT Fuse type Service switch and branch circuit fuses in same cabinet. Arranged for 2 branch circuits, single fused.



NEW CODE  
**SORGEL**  
 Air-Cooled  
**Transformers**  
 With Conduit Connections  
 No Extra Fittings Required



Can be installed inside of buildings without fire-proof vaults or enclosures of any kind.

Alternating current power circuits can be changed easily and economically to be more practical and more efficient for **Lighting, Portable Tools, Appliances, etc.**

Approved by Underwriters

Made in Sizes  $\frac{1}{4}$  to 50 KVA.

Single-phase, 2-phase and 3-phase

**110, 220, 440, 550 Volt**

Transformers Designed for Special Applications

Ask for descriptive literature

**Sorgel Electric Co.**  
 Clybourn & W. Water Sts.  
 Milwaukee, Wis.

at all without support from both sides. Therefore, the committee has moved cautiously and has proposed only such principles as appeared likely to meet with the approval of both the general and sub-contracting national associations. If these principles are approved, others will no doubt be developed and submitted. It is earnestly hoped that they will be approved by all of the thirteen associations represented on the Allied Construction Industries Committee.

#### Approved Principles

No. 1. All charges comprehended within "General Conditions" of the specifications in work let under a General Contract shall be assumed and paid for by the General Contractor, and no part of the same shall be prorated or charged back to Sub-contractors, and sub-contractors' proposals or estimates shall carry a notification as follows: "No prorata or other charges arising out of General Conditions are included."

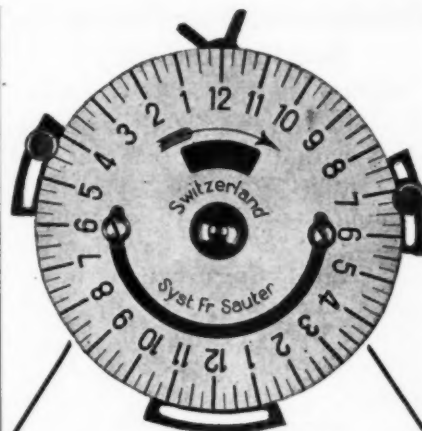
*Discussion:* It was the sense of the meeting that the principle No. 1 should apply on separate contract proposals as well as on proposals to a general contractor, and that proposals should in both cases carry the notice.

No. 2. All Sub-contractors shall carry and pay for workmen's compensation insurance in states where such compensation insurance is operative, and employers liability insurance where compensation insurance is not operative; and in addition public liability insurance to protect themselves upon the work they are doing. Compensation and other insurance shall be placed by the Sub-contractor in any Company licensed to do business in such State where the work is to be done, without any restriction by either the owner or others.

*Discussion:* The practice of dictating the placing of insurance by either owners or general contractors deprives the sub-contractor of purchasing power which is rightfully his own. When an owner or a general contractor dictates what company shall insure the sub-contractor on a specific project, the sub-contractor may be without protection while his men are moving from that project to some other. Men in transit may be injured or may injure someone else, as for example through an automobile collision, and a gap between the policies of two different insurance companies leaves the sub-contractor without protection.

No. 3. When general contractors have taken or canvassed bids, before bidding on work, they shall not again take or canvass bids, but they shall award the work to the sub-contractor submitting the bid upon which they secured the work. A general contractor, when making up his estimates, is not entitled to receive bids from sub-contractors if he is at the same time making himself their competitor by figuring their portion of the contemplated work, or by arbitrarily discounting the bids so given him.

It is legitimate for a general contractor to figure all portions of the work, depending upon no one for what are usually known as sub-estimates, but it is not legitimate for him to receive bids from others for sub-work and then



Sauter Astronomic Dial

## ASTRONOMIC DIAL with Midnight "off"

WITH a Sauter Electric Time Switch it is only necessary to set the "off" hand at the time of night when electrical illumination is to be cut off. This automatic feature will then eliminate all waste of current after hours. Better—once set, it needs no change.

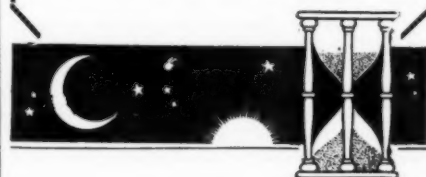
A self-winding Sauter Switch with astronomic dial not only obviates the necessity for winding, but also makes the dusk "on" function automatically in step with sunset the year 'round.

The switch will close automatically fifteen minutes after sunset without further adjustment.

To these advantages you add the unfailing dependable accuracy of a real timepiece when you install a Sauter Switch. Your time is saved by the absence of trouble trips to remote installations.

If you have not already secured a catalog, send for one to

**R. W. CRAMER & CO., Inc.**  
 136 Liberty St., New York City





**CONCEALING CONTROLLER WIRES:**—Twenty-one 1/0 conductors connecting the grids mounted above the board with the controller and slip ring of a 150 H.P. motor, are carried through this cabinet thus making a neat and permanent installation. It will also conceal six 700,000 c.m. cables running from the floor to the oil switch. This cabinet which is constructed of No. 12 gauge sheet steel with tops of split porcelain, is part of the electrical equipment now being installed in the new Chicago Aquarium by the White City Electric Co.

to figure those portions or to discount them in competition with sub-bidders.

*Discussion:* Attention was called to the point that the shopping of bids by general contractors and the cutting of bids by sub-contractors were equally important aspects of present unsatisfactory conditions, which should be handled through co-operative action of the better elements of both sides.

Discussion occurred on the advisability of a sub-contractor's bidding to both a general contractor and an owner on a specific project. The thought was expressed and strongly supported that such procedure commonly resulted in a two way shopping of the sub-contractor's bid, which was extremely injurious to himself and the industry.

No. 4. In event that a general contractor waives the right of lien of sub-contractors on a construction project, he shall before entering into contract with any sub-contractor selected, give the sub-contractor notice of that fact in writing, and shall provide an indemnifying bond to insure payment to the sub-contractors.

No. 5. The practice of financing or guaranteeing accounts of general contractors by sub-contractors, or sub-contractors by general contractors is detrimental to the best interests of the entire construction industry and the building public.



# A Complete- Approved Line of Superior-

## CONDUIT FITTINGS

Meeting the exact requirements of electrical contractors everywhere STEEL CITY fittings are recognized as the standard equipment of the industry . . . The increasing popularity of STEEL CITY fittings together with that extra personal attention and cooperation we give our customers has made two additions to our factory necessary within the last two years. A complete and approved line of superior quality fittings that cost no more than others is instantly available always from warehouse stocks located in all principal cities.

*New products are constantly developed that make wiring easy and speed installation. Keep posted on the STEEL CITY line.*



Our New  
Catalog will  
help you speed  
up estimates

WRITE FOR IT  
TODAY !

# STEEL CITY ELECTRIC CO.

1207 Columbus Ave.

PITTSBURGH, PA.



## will announce a new line in August

It will be the most complete line of its kind on the market. You will be able to make money on it from the start—either in sales over the counter or on wiring jobs.

It's what you want—watch for our announcement.

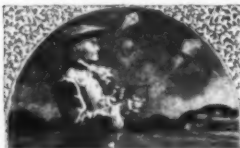
And—we'll still continue making C.S.T. Conduit Fittings perfectly machined, clean-cut threads, thoroughly galvanized and packed in convenient cartons for your convenience.

Send for free samples and Catalog of  
[ THE STEEL TANK LINE CONDUIT FITTINGS ]

**CHICAGO STEEL TANK CO.**

**ELECTRICAL DIVISION**

**6400 West 66th Street CHICAGO, ILLINOIS**



*Holtzer-Cabot*  
**SIGNAL SYSTEMS**  
ESTABLISHED 1875



## Signal Bells and Annunciators

Holtzer-Cabot bells and annunciators are manufactured to a standard of quality unsurpassed regardless of price.

Equipment of this character will give many years of satisfactory, trouble-free operation.

Contractors requiring bells and annunciators will find it to their advantage to compare quality and prices of Holtzer-Cabot equipment.

Bulletins and prices sent on request.

**The Holtzer-Cabot Electric Co.**  
**Boston Chicago**

## Iowa Considers State-Wide Credit Plan

A special committee was appointed by the Iowa Association of Electrical Contractors at its recent convention to discuss the Detroit Credit Plan with the Iowa jobbers for the purpose of working out some plan of state-wide credit control for Iowa contractors.

\* \* \*

## More Convenience and Adequacy

A new Red Seal pamphlet has just been printed by The Electrical League of Pittsburgh giving a short selling message, the Red Seal specifications, an application blank and the following suggestions for further convenience and adequacy:

1. Install conduits for concealing telephone wiring from exterior of building to telephone outlets. (See your telephone company.)
2. Service switch of at least 60 amp. capacity.
3. Wiring for radio at suitable locations.
4. Height of switches 4 ft. from finished floor.
5. Height of side lights 5 ft. 6 in. from finished floor.
6. Convenience outlets placed in baseboard, or not more than 14 in. above finished floor. Exceptions: kitchen, bath and breakfast rooms, switch height; laundry, power drop from ceiling.
7. Pilot lights at switches controlling cellar and attic lights.
8. Install a convenience outlet under dining room table.
9. Control ceiling and side lights with separate switches.
10. Separate circuits for refrigerator, iron, ironer, washing machine, and electric heaters.
11. Illuminated house number.
12. Dead front safety type panel board.
13. In kitchen, provide for ventilating fan, light over sink, and outlet for electric clock.
14. Install a built-in electric heater in bath room.
15. Install lighting control for protection against burglary.
16. Group convenience outlets on circuits not supplying ceiling or side lights.

\* \* \*

## Another New York Association Formed

An organization known as the Master Electrical Contractors' Association has been formed by a number of electrical contractors in New York City. Among its present activities are instructions on estimating, handling union and labor problems, and promoting a





#### CO-OPERATES WITH ALL BRANCHES OF INDUSTRY:—

Here is City Electrical Inspector W. H. Clasen, of Davenport, Iowa, feeling good because the new electrical ordinance has reached its second reading. He has the name of trying hard to make business better for all concerned.

policy in favor of a State license instead of a city license.

This association, which has more than seventy-five members at present and is rapidly growing, meets every Wednesday evening at 109 East 116th St.

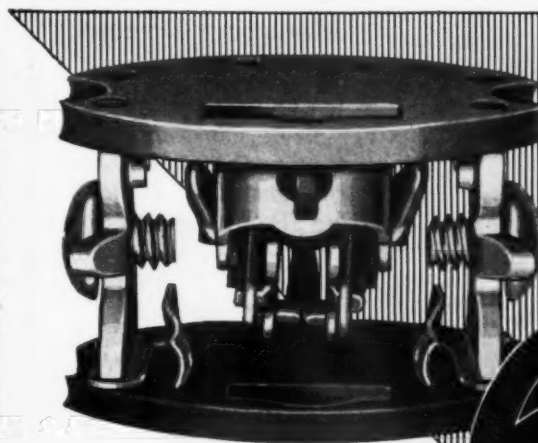
At a recent meeting of the following officers of the association were elected: H. Bruchmeier, president; Chas. Desowitz, vice-president; J. O. Lebow, financial secretary; Harry Sheine, treasurer; F. Annunziato, secretary; H. Lippman, sergeant-at-arms.

\* \* \*

#### 3,000,000 c. p. Floodlight for Columbus Airport

The Port Columbus Airport, Columbus, O., the eastern terminal of the Transcontinental Air Transport Line, will be the first airport to use the new G. E. 3,000,000 candlepower floodlight for night flying. It is said that this light will enable one a mile away to read a newspaper without eye-strain.

The floodlight contains eight 3000-watt, 32 volt lamps.



Look After  
the  
Lighting Jobs  
NOW!

*Levolver*

AMP.  
125 VOLT

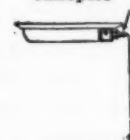
#### Heavy Duty Fixture Switch



For office,  
store and  
kitchen units.



Ideal for  
Canopies



Also fits  
in shallow  
ceiling pans



In knockout  
of outlet  
box

This is the time to get after industrial plants, office buildings, stores and kitchens for the refixturing and overhauling of the lighting systems.

Put in the big lamp units before the dark days come and the busy season is on.

The Levolver Heavy Duty Fixture Switch is your entering wedge for better lighting with economy and individual control.

Rated at 6 amperes, but will take the initial 45-ampere surge of switching a cold 500-watt gas-filled lamp.

McGill advertising is bringing this switch to the attention of every kind of industrial plant, office building and store in every part of the country. Now is the time to tie-in.

[ Order from your jobber or  
ask us for a sample. ]



**McGILL**  
MANUFACTURING CO.  
Electrical Specialties of Quality  
ESTABLISHED 1904  
VALPARAISO • INDIANA



# New! T & B TITE- BITE



*The Squeeze  
Connector  
that takes a  
wide range of  
cable sizes*

**TABOLITE**  
finish SUPERIOR GALVANIZING

Approved by National Board

Here's the last word in a squeeze connector for every purpose. . . meets your every requirement, accommodating a wide range of cable sizes. Their use saves time and makes money for you.

14-2	Wire	Armored	Cable
14-3	"	"	"
12-2	"	"	"
12-3	"	"	"
10-2	"	"	"
10-3	"	"	"
3/8"	S.S.	Flexible	Conduit
3/8"	D.S.	"	"

Write today for Free Sample

## THE THOMAS & BETTS CO.

15 Park Place, New York City  
Factory—Elizabeth, N. J.

### Benjamin New A.L.E.A. Managing Director

Charles L. Benjamin, well known publicist in the lighting fixture field, has been chosen to succeed Granville P. Rogers, as managing director of the Artistic Lighting Equipment Association. Mr. Rogers resigned recently to take up similar duties in another very important trade field.

Mr. Benjamin has been for many years a student of merchandising principles of lighting equipment and so brings to the association a background of promotion experience that should be very valuable.



Charles L. Benjamin

Mr. Benjamin was the first editor of Printer's Ink, and, later, was for nine years advertising manager of Cutler-Hammer Company. Upon severing this connection, he opened an advertising agency of his own with which he has been continually occupied, except for war duties, until taking up the present work. For many years he has been associated in his advertising work with Fred Farmer, president of Beardslee Chandelier Manufacturing Co., and one of the foremost leaders of the Artistic Lighting Equipment Association.

# UNION

The  
Most Complete Line of  
Drum Controllers  
in the World

## Hercules Fingers



No Better  
Drum Fingers  
Made

**Base Support.** Stamped steel. Consists of two parts—a rigid supporting base and a movable base member. The latter is hinged and gives the finger its movement to prevent stubbing. Two formed teeth sliding in grooves keep the fingers in line and rigid.

**Base Mounting.** Mounted on two steel supporting rods. Mica insulated. Indestructible.

**Finger Bar.** Stamped steel. Finger tip is of forged copper—renewable. Contact bar is also renewable, although it should never have to be replaced.

**Tension Spring.** Oil tempered coiled wire, formed to fit around the finger bar attachment screws. Readily removable so that finger bar can be turned back for inspection and cleaning. Two-prong tension insures equal pressure at all times. Tension spring carries no current.

**Pig Tail.** Laminated. Complete circuit from finger tip to lug. Laminations allow ventilation. Treated against corrosion.

**Adjustment.** Provided by a screw which takes up the wear on finger tip. Lock spring holds adjusting screw in position after finger is set.

**Wire Connections.** Each finger is provided with a solder lug which is in accordance with the Underwriters' specifications. Perfect contact between wire connector and segment, assuring a low contact resistance.

For complete details see our  
Publication 500

**UNION ELECTRIC MFG. CO.**  
(10th and Juneau, Milwaukee, Wis.)  
Manufacturers of  
**Electric Motor Control Apparatus**

Also Associated Manufacturer with,  
and Eastern Distributor for  
**DIAMOND ELECTRICAL MFG. CO.**  
Los Angeles, Cal.  
Magnetic Motor Control Apparatus

### Oregon Electragists Meet

At the convention of the Oregon Electragists held at Eugene, Ore., June 17 and 18, the morning session, for contractor-dealers only, was given over to the discussion of state and local inspection laws, credit reporting systems and other trade problems.

Among the program contributors were: Fred Zaugg, illumination engineer, Northwestern Electric Co., on "Selling Lighting"; Jay S. Groo, illumination engineer, Portland Electric Power Company, on "Franklin Specifications" and the progress of the Red Seal plan; Harry W. Brown of the Electric Corporation, on "A Jobber's Observations" and the benefits from a well organized trade association. Lewis A. McArthur, general manager of Pacific Power and Light Co., who was the principal speaker, chose for his subject, "Is the merchandising of appliances by the central station a justifiable activity?" and supported his affirmation by a statement of his company's co-operative plans now in operation.

June 18 was given over to a golf contest, won by the jobbers, and other entertainment.



**PLENTY OF EQUIPMENT THEIR SLOGAN:**—The Davenport Electric Contract Co., Davenport, Ia., does nothing but big jobs as a rule, and men like to work for them because of a generous supply of tools and devices. For example an electric hammer was purchased, costing well over a hundred dollars, but a saving of \$60 was made on the very next job. Left to right in the picture: E. T. Anderson, vice-president; H. M. Hey-singer, president, and George M. Hahn, secretary-treasurer.

### The J. C. PENNEY CO. WAREHOUSE St. Louis, Mo.

#### Architects

T. P. Barnett, St. Louis

#### Engineers

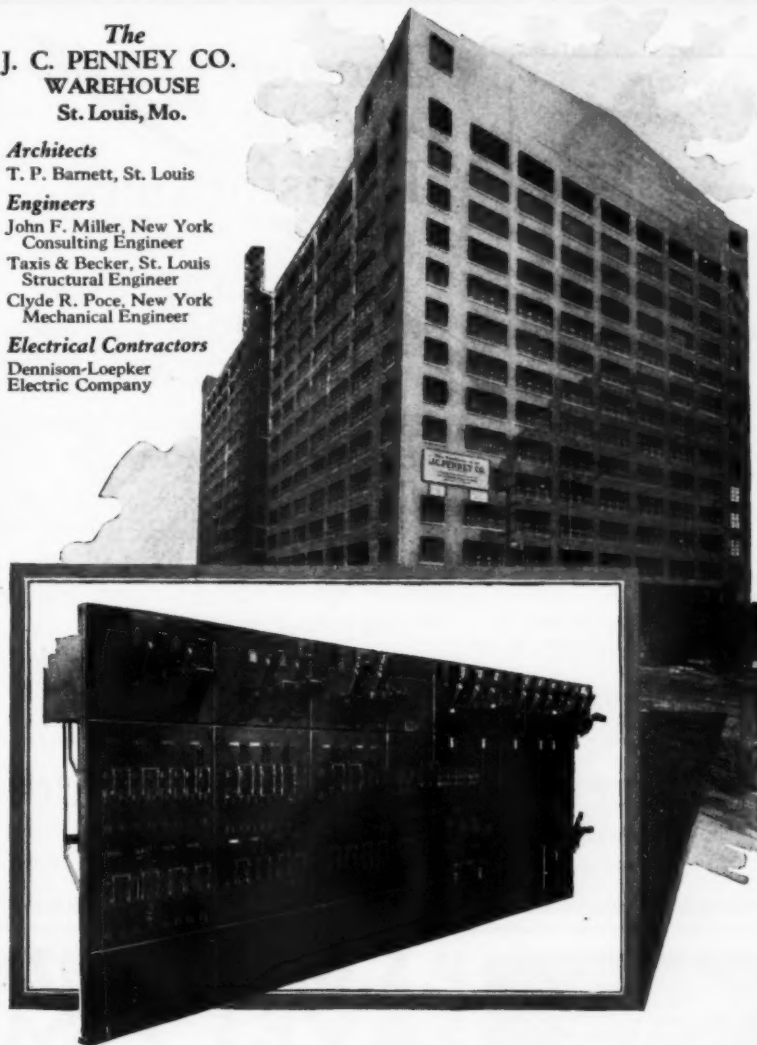
John F. Miller, New York  
Consulting Engineer

Taxis & Becker, St. Louis  
Structural Engineer

Clyde R. Poce, New York  
Mechanical Engineer

#### Electrical Contractors

Dennison-Loepker  
Electric Company



## WURDACK SWITCHBOARDS

are especially designed to meet the requirements of each individual job. They are constructed, erected, completely assembled and electrically and mechanically tested in our plant before shipment. They are shipped in sections, each part being clearly marked, which permits the board to be re-erected and installed with the minimum of time and labor. No cutting or fitting of parts on the job.

Our engineering staff will be glad to co-operate with you in solving your live front switchboard problems. Our widespread experience in constructing hundreds of switchboards, such as the one for the J. C. Penney Company, illustrated above, is at your disposal. Write for details.

**WMWURDACK**  
ELECTRIC MFG. CO.

4444 CLAYTON AVE., ST. LOUIS, MO.





## Trester Air Cooled Transformers

For  
LIGHTING  
SYSTEMS and other  
INDUSTRIAL USES

REPLACE condemned balancing coils with transformers that conform to the New Code. They are safe, economical and efficient in operation.

Connect lighting load to 220, 440 or 550 volt power mains.

A field for business during the slack months.

Send for our  
Bulletin 527

Representatives desired in principal cities and Industrial centers.

**TRESTER SERVICE ELECTRIC CO.**

49 E. Wells St., Milwaukee, Wis.

"Trester Service Since 1908"



## P.S. GALVANIZED SAVES TIME



**FOUR** 1-minute dips of a copper sulphate test (double the Underwriters' requirements) prove the zinc coating on Pittsburgh Standard Galvanized Conduit.

No fancy coating needed on top of the heavy zinc on this ever-dependable conduit.

Our own Special Laboratory-made Black Enamel coating inside—baked on.

You will gain sure satisfaction in using Pittsburgh Standard Galvanized Conduit.

Try it on your next job.

**ENAMELED METALS CO. Pittsburgh, Pa.**



## A ROLL O' TAPE

Electrical flashes gathered among the Big Wire-and-Pipe Men by

Coit A. (Duke) Smith

Field Editor, ELECTRICAL CONTRACTING

EVERYTHING comes to him who waits. A Birmingham, Ala., contractor told me he wired a fine home for a certain man and made strenuous efforts to sell him on adequate wiring and plenty of convenience outlets. But the owner stubbornly refused to give in and the contractor was forced to do the job as he knew it should not be done. After a long time the house was sold. Right away our friend got busy with the new owner, laid his cards on the table and got the job of bringing the place up to standard. He relates with glee that, charging only a fair price, he made more on the changes than he did on the original work.

FOLLOWING up Andy Dunbar's story of how ladders go astray, Wm. Evitts, of Evitts Electric Co., Davenport, Iowa, takes no chances. He paints the full firm name on each ladder in three places. He says this is good protection against ladders being taken through error and against arguments as to ownership.

GEORGE Hahn, of the Davenport Electric Contract Co., sure pulled a fast one on me. I asked him if his company did much residence wiring. "Sure, son, sure!" he chuckled, "We wire one house a year, every year. We have to keep the boring-machine from getting rusty."

BACK to normal for the curbstoner. Last month I told you about one of them who was actually high in his bid. Well, the other day a Chicago contractor told me he bid \$138.00 on a bungalow job and thought he was sailing plenty close to the wind. But he lost the work to a fellow whose figure was \$112.00! As our subscriber's labor and material came to \$105.00, he is wondering just how the other man eats and pays his rent.

LEE Davis, of Leithner & Weishar, Rock Island and Moline, Ill., told me about a manufacturer's man who was astonished to find two rival contractors joking and cutting up in the L. & W. shops. This get-together

stuff it seems, however, is the regular thing in the Tri-Cities these days. The same day I heard this, P. A. Schlueter, Davenport, president of the Tri-Cities Electrical Contractors Association, used almost the very words spoken to me by Henry Moorman, of Covington, Ky. six months ago. He said: "When the contractors know each other and mix socially, they will not do things to mar this new condition of friendliness and co-operation. When a fellow finds out the others are not so bad as he thought, he gets a new slant on the business locally."

**B**ELEVE it or not, there are lots of fellows doing wiring who think a short-circuit is a run of a few feet. For instance, a helper asked the only other man on the job: "What's this here doofunny—is that one of our outlets?" The other dumbell looked at the plan and replied grandly: "Sure that's ours—that calls for a wall bracket." And the mark he referred to was the circle placed on the plan to indicate a plumber's stack!

**A**CCORDING to C. R. Robbins of Moline, Ill., it is not always the electrical contractor who is thrown for a loss by the well-known customer. He says you hardly blame 'em for trying, at that. He goes on to say that we have always held the plumber up to the electrical boys as one guy who always gets every dime that is due him for his work. But recently he overheard a housewife say to one of her girl friends: "That plumber charged us too much for that job, but, believe me, John will go down and get it reduced—he always gets something off!"

**P**RETTY soft for Miles Rockwood, of Rockwood & Rohwer, Clinton, Iowa. His company got the job of wiring the beautiful summer home of Frank Iten, of the Iten Biscuit Co., 'way up in the northern woods. Miles gets to supervise the job and is taking his fishing tackle along. Mr. Iten showed his confidence in Rockwood & Rohwer by giving them a free hand in the wiring. Also he told Miles to take along and install any appliances and conveniences he thinks will be needed.

**A**LBERT Wagner, A-C Electrical Co., Chicago, makes a minimum charge of \$2.50 on service calls and says it's not one penny too much. "In the old days," he goes on, "We used to send out a boy on a bicycle with a basket on the handlebars full of knobs, tubes, plug fuses, etc. Of course the charge was small then—much too small. But the people expect automobile and expert wireman service at the old figures. Naturally, this is impossible, but we only have few complaints because we explain the greatly increased overhead, etc., and fair-minded customers see the point right away."

## SCHOOLS And THEATRES Are Now Remodeling

**G**OOD contracts await you if you follow up our advertising to school officials and theatre owners this month. Schools are being swamped with applicants and are rapidly enlarging and modernizing. Competition among theatres since the talkies started is forcing extensive improvements in all ways, especially in lighting.

Bel-Sun-Lites land contracts for you because they supply more light from less current at lower initial cost. You can figure prices well under competition, yet make full profit because Bel-Sun-Lite discounts are very liberal.

School workshops, clinics, gymnasiums, pools and handball courts are best lighted by Bel-Sun-Lite diffusing reflectors. Their auditoriums are made into "professional" theatres by Bel-Sun-Lite stage equipment. Bel-Sun-Lite floods brighten towers, monuments, playing fields and construction work.

You can make a lot of money this summer out of

### BEL-SUN-LITE



Borders



Direction Signs



Foots



Olivettes



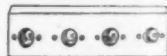
Chromium Reflectors



Floods



Louvres



Strips



Spots



Changeable Canopy Letters

### We Help You To Sell

Our representative will aid you in explaining Bel-Sun-Lites to buyers. Look in the phone book of the nearest of these cities for his name and address, or write us.

Atlanta, Ga.  
Buffalo, N. Y.  
Delaware, O.  
Ft. Worth, Tex.  
Gary, Ind.  
Houston, Tex.  
Indianapolis, Ind.

Kansas City, Mo.  
Los Angeles, Cal.  
Miami, Fla.  
Minneapolis, Minn.  
New Orleans, La.  
Omaha, Neb.  
Philadelphia, Pa.  
Pittsburgh, Pa.

Richmond, Va.  
St. Louis, Mo.  
San Antonio, Tex.  
San Francisco, Cal.  
Seattle, Wash.  
Tulsa, Okla.  
Tampa, Fla.

**Belson Manufacturing Co.**  
804 Sibley St. Chicago, Ill.



## A Service Department that Occupies but One Square Foot of Counter Space

**T**AKE this No. 35 Ohio Brush Kit, for example—one of the many popular Ohio Kits—is one with which you can service over 300 different types of single phase motors.

Wagner, Century, Westinghouse, G. E. and Peerless motors are all serviced from this single kit consisting of 132 brushes, each type of brush numbered according to type—and each type in a separate compartment. A glance at the chart that accompanies the Kit tells you exactly what brush to use.

There is over 400% profit in this single kit—an immediate source of supply—that eliminates delays and confusion—costs but \$25.00 complete.

**Ohio Carbon Kit No. 35  
Price \$25.00**

**THE OHIO CARBON CO.**

12508 Berea Rd., Cleveland, Ohio

West of the Rockies:  
1066 Howard St., San Francisco, Calif.



## Wiring Specifications for Commercial Buildings

Owners of commercial buildings in California, meeting the requirements of the specifications set up by the electrical industry, will receive certification from the California Electrical Bureau in much the same manner as Red Seal jobs in residences are now certified.

The standards for installation were devised by the commercial lighting committee of the Pacific Coast Electrical Association and adopted by the California Electrical Bureau and represent the combined thought of illuminating engineers, electrical engineers, electrical contractors and city inspection departments throughout the state. The specifications were drawn up, primarily, to produce adequate lighting for commercial interiors.

The smallest size wire considered for branch circuits is No. 12. For runs in excess of 100 ft., No. 10 is specified to be run to the first outlet with No. 12 for the rest of the circuit. No convenience outlets are to be connected to the lighting circuits.

All branch circuits are considered as carrying 1000 Watts for two-wire and 2000 Watts for three-wire circuits. A voltage



**SPECIALIZES IN QUICK SERVICE:**—The Shepherd Electric Co., Davenport, Ia., has been on the map only 18 months and has developed a nice business. Here we see Harry Shepherd and his assistant, Helen Fleischmann, who takes care of the office. Harry's strong point is smaller work and lots of it—jumps on the job and does it quickly and well, then dashes off to the next.

Trade Mark

**SRK**

**A1 WIRE**

## Connectors

**THE BETTER KIND**

A perfect joint every time plus simplicity and dependability.

A joint which is safer, stronger and better mechanically and electrically. SRK's embody everything necessary to make such joints. There is nothing more to ask for—and the job is done in a Jiffy. 1 size for combinations of No. 14, No. 16 and No. 18, solid or stranded, up to 4 No. 14 and 2 No. 18, or equivalent.

MILLIONS IN USE

Approved by Underwriters Laboratories and Factory Mutual Laboratories

Samples upon request

Patent No. 1635293; Others Pending

Manufactured by

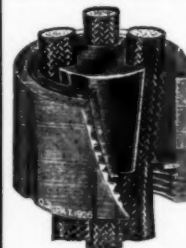
**JIFFY WIRE CONNECTOR CO.**

Hackensack, New Jersey

General Sales Office

G. Denn. Montgomery, Jr.  
522 Broadway, New York City  
Phone Canal 7533

## New Conduit Type Cable Support



A Simple Two Piece Cable Support for Vertical Runs.

Can furnish these in split type if wanted.

## A Compact End Fitting



One that has a canvas bakelite insert made to take one to nine wires.

## Bakelite Insulated Bushing



An insulated bushing made to prevent serious and disastrous grounds.

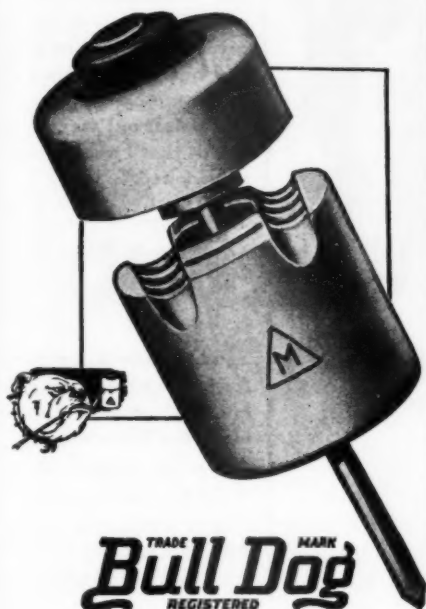
**O. Z. CABLE SUPPORT CO., INC.**  
45 Bergen St. Brooklyn, N. Y.

Send us your latest bulletin with prices

Name .....  
Address .....



"It has a grip like its namesake"



## Split Knobs

THESE are the safe, approved knobs for all types of residence wiring. They mean better jobs at no added cost. Bull Dog Split Knobs, together with Illinois Porcelain Tubes, Cleats and Solid Knobs form a complete line of standard porcelain.



Sold Through Wholesalers

Illinois Electric Porcelain Co.  
Macomb, Illinois



**HIS MEN ARE ALWAYS HAPPY:**—Jacob Vogler, Davenport, Iowa, gets a lot of hurry calls in addition to his larger work, and his boys have to solve some knotty problems, yet they are always smiling. In this picture the boss is telling Bill Edens that those reflectors haven't come yet, and Bill is going to make the best of it.

drop not to exceed 2 per cent is permitted on fully loaded circuits.

In all stores having supporting columns, there shall be installed a minimum of one convenience outlet on each column. Where there are no supporting columns there shall be at least four outlets for each 400 sq. ft. or fraction of floor area, these to be uniformly distributed over the entire area. In office buildings there shall be one convenience outlet for each 100 sq. ft. of floor area up to 400, and beyond that there shall be an additional outlet for each 400 sq. ft.

In addition there are recommendations with respect to elevators, store buildings, hotels, hospitals and special equipments for all buildings.

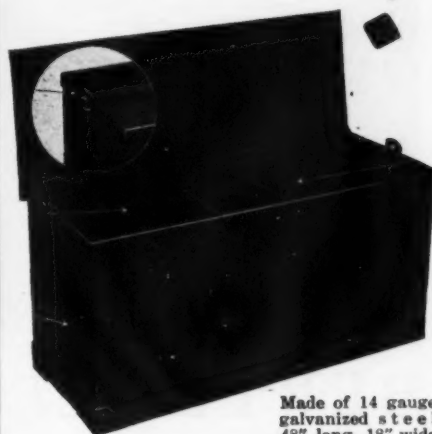
Special requirements are listed covering show windows; electric signs; baths and lavatories, halls, passages and corridors, emergency lighting circuits and banking rooms.

\* \* \*

### City Inspectors to Meet in Boston in August

The annual convention of the International Association of Municipal Electricians will be held at the Statler Hotel, Boston, Mass., August 20 to 24. Full particulars may be had from H. N. Lang, Orlando, Fla., secretary of the association.

# NEW!



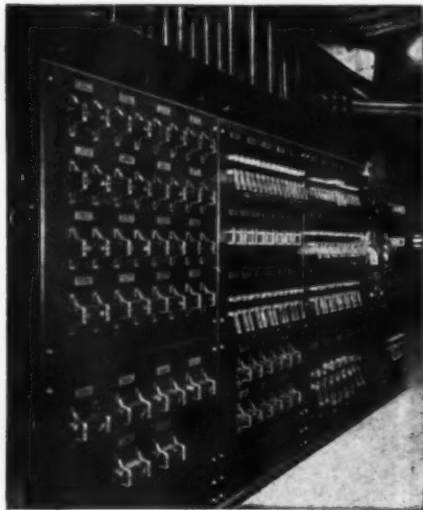
Made of 14 gauge galvanized steel 48" long, 18" wide and 24" deep.

## TOOL BOX and MATERIAL HOLDER

Every Contractor  
and Wireman

needs this new steel theft-proof portable locker . . . Note the lock arrangement and sturdy construction . . . Angle iron full length of box permits tray to be moved in either direction without removal to get at material stored in bottom of box. Four compartment tray will hold any number of small fittings . . . Corner irons give additional strength and protection. Heavy chain holds cover in place when lid is open . . . In addition, your name will be stenciled on the box without charge. Order today from your jobber or write us direct giving us his name.

**ELECTRIC  
APPARATUS CO.**  
702-706 N. HALSTED ST.  
CHICAGO



## BERTHOLD SWITCH and PANEL BOARDS for LIGHT and POWER

Berthold "Selectrolite" System of Lighting  
Control for theatres, auditoriums,  
lodgohalls, etc.

GUS BERTHOLD ELECTRIC CO.  
555 W. MONROE ST. CHICAGO, ILL.

Steel  
Cabinets



Stage  
Equipment



**TEN YEARS' WIRING FOR ONE CUSTOMER:**—As a result of fair dealing and good service the electrical contracting firm of R. D. Speers, Davenport, Ia., has wired practically all of the buildings of the Palmer School of Chiropractic, Station WOC and B. J. Palmer's beautiful exhibit, "A Little Bit of Heaven." R. D. Speers is on the right and his brother, J. C. on the left. Both requested that "Pooley," in the center, be listed as the third partner of the firm.

## Brush, Arc Light Inventor, Dies

Charles F. Brush, inventor of the arc-light, died at his home in Cleveland, June 14, of pneumonia. He was active up until his last illness. Establishment of the Brush Foundation for population study and the betterment of humanity was one of his last notable acts, to which he donated \$500,000.

In 1876 Brush perfected the dynamo-electric machine known by his name, and in 1878 the series arc lamp. In 1879 he was lighting stores in New York with arc lights fed from a central source, the forerunner of the modern central station.

Mr. Brush discovered the use of iron laminations for generators. To him is attributed the use of copper-plated carbon brushes and the damper winding used on certain generators and motors. He did much to develop and perfect the lead storage battery and secured many patents by which improvements in the manufacture of lead plates were effected. In 1881 he was decorated by the French government as Chevalier of the Legion of Honor, in recognition of his discoveries in electricity.



**"I never overlook a bet!"**

*Writes a W. B. B.*

"since I have been getting the WIREMOLD Business Builder. It is a great help to me in getting business because it keeps me on my toes—and points out ways and means that I might have overlooked."

# WIREMOLD

Send in your name now for mailing list. Also get latest Wiremold Catalogue and literature.

**KEEP UP WITH THE WIREMOLD LINE—CONSTANT IMPROVEMENTS—NO RADICAL CHANGES.**

The  
Wiremold Company  
Hartford, Conn.

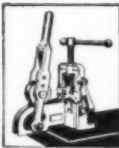
## The Jiffy Line

### Jiffy Tools Reduce Costs!

We guarantee your satisfaction. Order any tool illustrated on the margin, on approval. If YOU are not satisfied return the material at our expense.

A Bulletin describing the complete line in detail will be mailed upon request. Fill in the coupon below or send in your order ON APPROVAL.

ESTABLISHED 1915



Pipe Bender



Nipple Chuck



Box Cutter

**Paul W. Koch & Company**  
25 So. Wells St., Chicago

☐ Send information regarding free trial.  
☐ Send the "Jiffy Line" Bulletin.

Name.....

Firm.....

Street.....

Address.....

7-10-29

## HyKon BORING DEVICE

### with New One-Piece Self-Centering Chuck

adjustable for boring deep or shallow holes. Thumb screw holds it . . . Simple and easy to operate, making old house wiring jobs more profitable than ever . . . The new one-piece self-centering chuck



### Eliminates Set Screws

formerly necessary to center the bit . . . Notch in the end of shaft permits operator to hold spindle and release chuck without the use of a wrench . . . Head may be quickly detached from standard and put on any attachment. Order today from your jobber or write us direct, giving us his name.

We also are manufacturers of the HyKon Reel for all types of wiring jobs.

**The HYKON Mfg. Co.**  
Alliance Ohio

In 1899 the American Academy of Arts and Sciences awarded him the Rumford medal for "the practical development of electric arc lighting." In 1913 the A.I.E.E. awarded him the Edison medal.

\* \* \*

### More Outlets in Red Seal Houses

An analysis made by the Electric League of Pittsburgh shows an average increase of 13 outlets per Red Seal home last year. In 1927 the average Red Seal home in the Pittsburgh district had 75 outlets which was increased in 1928 to 88 outlets.

\* \* \*

### Detroit to Push Franklin Lighting

Detroit will shortly begin through the Electrical Extension Bureau to push the Franklin specifications for better lighting in commercial and industrial buildings. The Bureau states that it plans to devote \$10,000 to this activity this year.

\* \* \*

### 1928 Code for Chattanooga

A report comes from Chattanooga, Tenn., that the City Commission will adopt the 1928 National Electrical Code in place of the 1925 Code under which the city has been operating for some time.



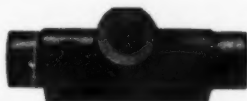
**SHOWS A PROFIT AND AN INCREASE EVERY YEAR:**—Jos. L. McCarron operates a contractor-dealer business in the Gravois district in St. Louis, Mo. He has made a success by refusing unprofitable work and because he deals mostly with the same customers, who are satisfied with his methods and prices.

## A Complete Line from One Source

You can solve any Conduit Fittings problem with the ADAPT<sup>i</sup> Line—even the problem of getting better quantity discounts by buying all from one source.

### ADAPT<sup>i</sup>LETS

(Standard Solid Fittings)

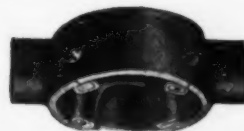


Type T No. 8030—Adaptilet

ADAPT<sup>i</sup>LETS cover all requirements where standard solid fittings are needed. Smooth interiors for easy "pull-through." Enameled or galvanized. All regular types and sizes in stock.

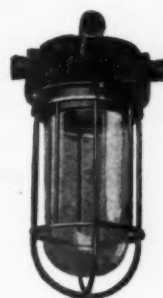
### ADAPT<sup>i</sup>BOXES

(Flexible-Rigid Fittings)



Type 3200—Adaptibox

ADAPT<sup>i</sup>BOXES have all the good points of ADAPT<sup>i</sup>LETS, plus interchangeable sides, readily removable with a screwdriver, which permit making up "specials" right on the job by knocking down and reassembling standard Adaptiboxes.



Type 9150  
Vapor-Proof Unit

Write for  
Catalog

The ADAPT<sup>i</sup> Co.

2996 E. 72nd St., Cleveland, O.

Prompt  
Delivery

NEW YORK CITY—A. Stone, 112 East 23rd Street  
PHILADELPHIA—Craven Elec. Sales Co., 30 Bank St.  
SOUTH BOSTON—The Hastings Sales Co., 42 Binford St.

# Fretz-Moon

FRETZ-MOON TUBE CO., Butler, Pa.

There is a big difference in conduit—  
FRETZ-MOON proves it.

## RIGID CONDUIT





# Manufacturers News

*A department for the announcement of activities of manufacturers that are of interest to contractors, such as changes in executive personnel, branch offices, new products, etc.*

## Appleton Buys Powerlet Line

Announcement has been made of the purchase by the Appleton Electric Co., Chicago, of the Gem Powerlet line of conduit fittings from the Jefferson Electric Co., formerly the Chicago-Jefferson Fuse & Electric Co., Chicago.

\* \* \*

## Tritle Elected Westinghouse Vice-President

J. S. Tritle was elected vice-president of the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., at a recent director's meeting. This is in addition to Mr. Tritle's recently assigned duties as manager of manufacturing operations for the company.

Mr. Tritle has served the Westinghouse company in various capacities, first as manager of the Kansas City and St. Louis district sales offices, then as head of the merchandising department and later assuming full charge of the engineering and manufacturing as well as sales work of this division.

\* \* \*

## Westinghouse Agent Jobbers Meet

The 17th annual meeting of the Westinghouse Agent Jobbers Association was held on June 10 to June 15 at The Homestead, Hot Springs, Va.

Karr Parker, treasurer and engineering manager of McCarthy Bros. & Ford, Buffalo, N. Y., was elected president and E. D. Kilburn, vice-president and general sales manager of the Westinghouse Electric & Mfg. Co., was elected vice-president. H. M. Gansman, vice-president of H. C. Roberts Electric Supply Co., Philadelphia, was elected secretary and H. T. Pritchard of the Westinghouse merchandising department,

was elected assistant secretary and treasurer.

\* \* \*

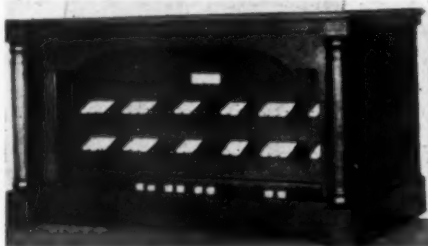
## Burrows National Lamp Pacific Manager

R. P. Burrows has been appointed manager of the Pacific Division of the National Lamp Works, Oakland, Calif. He succeeds A. M. Sweeney who will be located in the sales department at Nela Park. Mr. Burrows has been with the National Lamp Works since 1911, with the exception of four years during which he was engaged in the direction of a company which specialized in motion picture theatre equipment.

\* \* \*

## Wagner Buffalo Office in New Building

The Wagner Electric Corp. has moved its Buffalo sales office into a new building at 1796 Main St. This building was erected in accordance with Wagner specifications to assure improvements in distribution facilities. This office handles the entire line of motors, transformers, fans and hydraulic brakes, and maintains a repair shop and service station.



**AN ORGAN OF LIGHT:**—The Lumitone, a device developed by Curtis Lighting, Inc., Chicago, for controlling mobile color lighting. Press the keys as on any organ and the music of light is expressed through the changing gradations of color upon the lighted object.

## New Moe-Bridges Line-up

The Moe-Bridges Co., Milwaukee, Wis., announces that its officers under the new management are: C. A. Bridges, president; J. T. Bridges, vice-president; F. L. Conrad, secretary-treasurer, and C. A. Fix, assistant secretary.

\* \* \*

## Curtis New York Offices Opened

The new offices and showroom of Curtis Lighting of New York, Inc., had their formal opening on June 7. The new quarters, located on the twelfth floor of the New York Central Bldg., while serving their strictly commercial and utilitarian purposes have been designed and furnished with a view to the proper presentation of scientifically and artistically correct illumination.

That space which has not been set aside for the sales and administration offices and the private offices of the officials, is devoted to a display of every type of lighting system, as well as fixture design. Experienced illuminating engineers and lighting experts have been employed for the service of those requiring assistance in lighting problems.

\* \* \*

## L. G. Tandberg Manages Wagner, Los Angeles

The Wagner Electric Corp., St. Louis, Mo., announces the appointment of L. G. Tandberg as manager of its sales office at 1220 S. Hope St., Los Angeles, Calif.

\* \* \*

## New Unit for Home of Telechron Clocks

A new unit added to the plant of the Warren Telechron Co., Ashland, Mass., has doubled its ca-

## A BIG MONEY SAVER

Eliminates triple handling—unwinding—measuring and rewinding wire, thus saving time and money. Manually operated—reels wire into neat coil, automatically counting and registering number of feet. Strongly built of heavy selected materials so as to last a lifetime.

### It Pays for Itself

Send for bulletin.  
Write us or your jobber.

**Minneapolis Electric  
and Construction Co.**

80 S. 12th St.  
Minneapolis Minn.



capacity. The floor space of the combined units, including storage basement, is approximately 42,000 square feet.

\* \* \*

J. V. Calhoun has been appointed eastern sales and engineering representative of the Edwin L. Wiegand Co., with headquarters at 800 Commercial Trust Bldg., Philadelphia, Pa. Mr. Calhoun will cover all the towns around Philadelphia and all of Delaware and Maryland and New Jersey.

\* \* \*

The Wagner Electric Corp., St. Louis, Mo., has issued a new revision of Bulletin 151 on air-jacketed motors containing a discussion on dust, fume and moisture problems requiring special protection to motor and property. The bulletin points out the construction features making Wagner air-jacketed motors dust-proof, fume-proof and moisture-proof.

\* \* \*

A 16-page booklet on its complete line of electrical equipment and supplies is being distributed by the Ideal Commutator Dresser Co., Sycamore, Ill.

\* \* \*

Harvey Hubbell, Inc., Bridgeport, Conn., has issued a new catalog of electrical specialties. This catalog, No. 19, illustrates many new and radically changed devices.

\* \* \*

The W. N. Matthews Corp., St. Louis, Mo., is issuing bulletin 504 on the Matthews line of Fuswitches and disconnecting switches, open type.

\* \* \*

A bulletin on switchboard devices, with special relation to panel and benchboard pipe fittings, has been released by the General Electric Co., Schenectady, N. Y.

\* \* \*

The Federal Steel Products Co., Newark, N. J., announces the appointment of E. S. Bolton, 1210 E. 113th St., Cleveland, O., as its representative in Ohio.

## Rubber Insulated Wires and Cables

Insulating Tapes and Splicing  
Compounds

Raven  
Core  
Wires

Grimshaw  
Tapes

Competi-  
tion Tapes



**NEW YORK  
INSULATED  
WIRE CO.**

Main Office  
114 Liberty Street,  
New York City

Factory:  
Wallingford, Conn.

Twenty-Six Million  
(and more)

## PAINE

Spring Wing Toggle Bolts

Now In Use—  
They must be good!

Merit alone put Paine Spring Toggles highest in the opinion of the electrical contractors of half the world. If they can save time, money and trouble while giving their customers a better job, you can do the same. Get a Paine Toggle Bolt and see for yourself. Mail the coupon.

Stocked by jobbers everywhere.



The  
**PAINE  
Company**

2947  
Carroll Ave.  
Chicago, Ill.  
79  
Barclay St.  
New York, N. Y.

Coupon Brings Sample

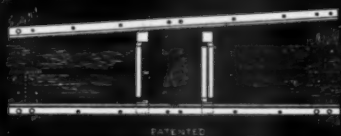
The Paine Co., 2947 Carroll Ave., Chicago, Ill.  
Please send me a sample Paine Spring Wing Toggle Bolt.

Name.....

Address.....

City..... State.....

## KRUSE



Switch Box Supporting  
Strips with or without Lath Holders

16 1/2"-18 1/2"-20 1/2"-22 1/2"-24 1/2"-26 1/2"-In. Lengths

Used by Contractors everywhere. A leader for ten years. Stocked by all leading jobbers. Millions of sets used yearly.

WE ALSO MAKE

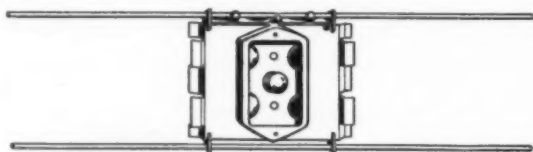
Kruse Bar and Old Work Hangers  
Peerless Type A Old Work Hangers  
Non-Metallic Sheathed Cable Straps  
Fit-M-All Outlet Box Hangers  
"Ready" Service Fittings

WRITE

For Prices and Literature

**Mid-West Metal Products Co.**  
MUNCIE, INDIANA

## New Electrical Products

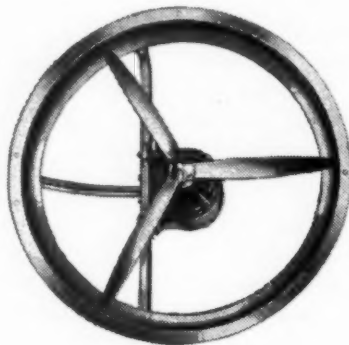


A new line of combination outlet boxes and hangers designed to assure more perfect box settings has been developed by the Triplex Electrical Manufacturing Company, Chicago, under the name of Allinone. The box is supported at four corners upon straight rod hangers and may be adjusted and fixed to any position after the hangers are fastened to joists. The cover, which is made with formed and slotted ears for inserting the lath ends, slips into slots and is fastened by a tap on the small center lug which locks it. The box, cover and hanger are assembled and packed in cartons in lots of 25.



The floor box illustrated, a product of the Thomas & Betts Co., Inc., New York City, is constructed with no screws in sight—there are no holes in the cover to fill up with concrete or other foreign matter. It has drop forged brass parts and adjustable cover. It is made with a large overlap and a small bevel designed to cover unevenness or chipping of the floor around the edge of the hole into which the box is set. The receptacle and support is one piece and may be had in 2 and 3 wire and 3 wire ground types. The box has 5 tapped holes for  $\frac{1}{2}$  in. conduit, 4 being plugged with watertight steel plugs. It may also be had with  $\frac{3}{4}$  in. or 1 in. holes. The holes in the side are arranged to permit the pipe to enter the box at 90 deg., while those in the flange are made to allow insertion of screws or nails at an angle. The box is galvanized.

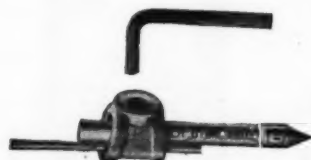
Features claimed for the new drill being made by the Rawlplug Co., Inc., New York City, are: Three points which may be kept sharp on any grinding wheel; ability to center with first blow; increased life of drilling diameter resulting from straight or parallel sides, and an oversized grip. This is a one piece drill made of forged and heat treated tool steel.



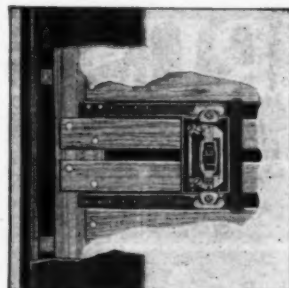
The Meier Electric & Machine Co., Inc., 140 S. Meridian, Indianapolis, Ind., has designed the type A "Nu-air" fans. They are equipped with enclosed ball-bearing motors with force-feed grease cup lubrication. The ring and supports are of aluminum.



A solderless connector with a locking action said to hold it tight permanently is being manufactured by the Penn-Union Electric Corp., Erie, Pa., for use on high tension lines. When the lock-nut is turned onto the yoke, a split wedge-shaped sleeve forces the body of the connector up tight against the main conductor. Simultaneously, the sleeve clamps tighter to the branch, equalizing the pressure on the main and branch conductors. This connector consists of the yoke, the body, split sleeve and nut.



Hubbard & Co., Pittsburgh, Pa., has designed a clamp for use with its copperweld ground rod for attaching grounding wires to ground rods by a mechanical method. It makes a permanent and secure bond between the rod and wire. The clamp and safety screw are made of non-ferrous metal and great pressure may be exerted on the wire or strand by means of the safety screw and wrench without stretching or bursting the clamp, according to the manufacturer. It is claimed that when properly tightened a pull of approximately one ton is necessary to cause wire or strand slippage. The pressure exerted flattens the wire or strand, increasing the contact area. Five safety screw wrenches are furnished with every one hundred clamps.



The National Electric Products Corp., Pittsburgh, Pa., has placed on the market a line of extended ear switch boxes for cable and loom and new pigtail and terminal type receptacles with covers. The former have ears 6 in. long on the ends for vertical mounting and on the sides for horizontal mounting. The receptacles provide a new method for attachment to box covers by securing the porcelain receptacle to the cover by means of metal tension clips screwed to the cover. These fit over a flange at the back of the porcelain, keeping it tightly in the cover hole.



**E-Z WIRE STRIPPER****A HANDY TOOL**

This inexpensive tool strips wire of 10 to 20 gauge 20 times faster than usual methods.

A MONEY BACK GUARANTEE with every E-Z Wire Stripper. Send for yours now.

**\$5<sup>00</sup>** LIST

**PYRAMID PRODUCTS CO.**

2313 South State Street

Chicago, Ill.



**THE RAWLPLUG CO., INC.**

66 West Broadway,  
New York City

Branches in 25 Cities  
Write for Bulletin B-201

## General Electric Supply Corp.

**EDISON MAZDA LAMPS  
ELECTRICAL AND  
RADIO SUPPLIES**

BALTIMORE RICHMOND  
NORFOLK CHARLOTTE

Distributors for General  
Electric Company, Radio  
Corporation of America and  
other large and reputable  
manufacturers.

## Keep Up-to-Date

By reading these pages you will acquaint yourself with what is newest and best in electrical supplies and equipment.

When communicating with an advertiser mention

**Electrical Contracting**

The Westinghouse Electric and Manufacturing Company announces the release of catalog 224, entitled Westinghouse Panelboards. It is a 64 page booklet describing the new line of panelboards with photographs and dimension drawings to illustrate each type. Price lists for each kind of panelboard are included.

The new type NAB Nofuz panelboard using the 15 ampere, Deion principle circuit breaker is fully described as well as the safety-type metering panelboards and distribution panelboards. The catalog also shows switchboards and theatre switchboards of the most recent type. Other information, such as wire tables and wiring data for motors, is also included.

\* \* \*

A new publication of the Wagner Electric Corp., St. Louis, Mo., is its No. 162 Bulletin containing complete transformer oil specifications, discussing the purposes, properties and methods of testing, and precautions for handling and storing this product.

\* \* \*

Panelboard catalog No. 45 is a recent publication of the Frank Adam Electric Co., St. Louis. This catalog is well illustrated and includes price lists and specifications on the complete line of panelboards and steel cabinets.

\* \* \*

The All-Steel-Equip Co., Aurora, Ill., has issued catalog D-1 covering cutout boxes, cabinets, and Fuse-Cabs. This catalog, in addition to carrying complete descriptions and illustrations of these products, includes new list prices on the cutout boxes and cabinets.

### Classified Advertising

**Capable Man Wanted:**—An electrical contracting firm of Des Moines, Ia., wants an Electrical Engineer. Nature of business is large building contractors. Man must be able to do drafting, estimating and soliciting. Must be about 30 or 35 years of age. Make application to F. J. Moeckly, Manager of Electric Association, 307-11 S & L Building, Des Moines, Ia.

**Wanted:**—A capable salesman to take charge of General Electric refrigerator sales in Ulster County. Harder's Electrical Store, Kingston, N. Y.

## "DETROIT" RUBBER COVERED WIRES

(Reg. U. S. Pat. Office.)

**RUBBER INSULATED  
WIRES AND CABLES**

**LAMP CORDS**

**AUTOMOBILE WIRES**

**PARKWAY CABLES**

**LEAD ENCASED**

**RUBBER INSULATED  
WIRES AND CABLES**

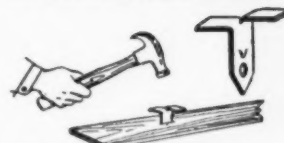
**UNIDUCT ARMORED  
WIRES**

**FLEXIBLE METALLIC  
CONDUIT**

**Detroit Insulated Wire Company  
Detroit, Mich.**

Division of General Cable Corporation

### Concrete Inserts Save Time in Conduit Installation



Pound them in the form; the concrete holds them solid; hang the pipe below.

Send for Bulletin or Sample

**Commonwealth Electric Co.**  
417 Broadway, St. Paul, Minn.

### ESTIMATOR'S TIME SAVER



Rotometer

Every estimator's tool kit should have  
1. Rotometer ...\$4.50  
2. Tallying Machine ...\$4.50  
for taking off quantities of material quickly and accurately. Used by leading estimators. GUARANTEED to satisfy you or your money back. Send \$4.50 each for Rotometer or Tally Machine, postpaid.

**The Peerless Blue Print Co.**  
341-347 Fifth Ave.,  
New York City

SINCE 1895

**'Crystal Mica' Windows**

**Blown Fuses  
Instantly Spotted**

And in Addition  
Improved Packing  
of the  
**"Old Reliable"**

## Weber Fuse Plugs

For more than 20 years,  
Weber Fuse Plugs have  
been the undisputed  
preference of the electri-  
cal trade.

Now, to keep them well  
in the fore-front, they  
are packed:

**Retail Cartons of 5  
Master Cartons of 50  
Shipping Cartons of 500**

No need to specify any-  
thing but **"Weber Fuse  
Plugs."** Our entire pro-  
duction is packed this  
way.



**HENRY D. SEARS**

General Sales Agent  
80 BOYLSTON STREET  
BOSTON, MASSACHUSETTS

WEBER DEPENDABLE  
WIRING DEVICES

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# *A Corner in WALL STREET*

*Architects:*  
**DELANO & ALDRICH**  
New York.

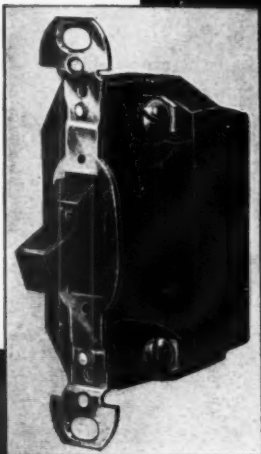
*Engineer:*  
**CLYDE R. PLACE**  
New York.

*Electrical Contractors:*  
**WALTER H. TAVERNER**  
CORPORATION,  
New York.

## *H&H*

No. 1611  
Enclosed  
Tumbler  
Switches

No. 3974  
Switch &  
Receptacle  
Combinat's.



## THE WALL & HANOVER BUILDING

CORNER WALL and HANOVER STS. NEW YORK

In this job WALTER H. TAVERNER CORPORATION, Electrical Contractors, installed 678 Enclosed Base Tumbler Switches (H&H No. 1611); 1060 Switch-and-Receptacle Combinations with Bakelite Plates (H&H No. 3974); 1025 Duplex Convenience Outlets (H&H No. 1437); 360 Single Convenience Outlets (H&H No. 1435); more than 2000 Plates and miscellaneous H&H Wiring Devices.

All told, a building of such merit and magnitude as to impose most careful selection of Wiring Devices. Which results, very generally, in H&H goods exclusively in the modern marts of business, big and little.

## HART & HEGEMAN DIVISION

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# What Causes Business Failures?

## Price Guessing

### THE National Electrical Resale Price Service

is a business-like method of pricing and quoting. It is issued by specialists in this work who watch the markets and suggest to Contractor-Dealers what to charge for electrical supplies in order to cover their overhead expense and make a fair profit. It is kept revised at all times—costs only about 20c per day and you pay for it as it increases your profits. In other words, it is not an expense but an investment returning big dividends.

### Why Not Investigate?

Over a thousand Contractor-Dealers are doing all their pricing and quoting from this Service. Many of them claim it has saved them from bankruptcy and one Contractor-Dealer last month secured a \$50,000 job at our prices and he will likely make enough extra profit on this one job to pay for this Service for a great many years. If you are not satisfied with your present profits, we will gladly mail you full particulars but since Service is furnished only to those engaged in the Electrical Business, please attach your letterhead to the coupon.

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